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# BIENNIAL REPORT

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**Florida**

**GAME AND FRESH WATER FISH COMMISSION**

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### *Cover Photograph*

The Florida panther is now confined mainly to remote wilderness areas of Florida. The panther is, however, inclined to roam and may occasionally appear at surprising places in well-settled portions of the state. The Florida panther is listed as a game animal and may be hunted only during the regular hunting season.

# Game and Fresh Water Fish Commission



January 31, 1957

HONORABLE LEROY COLLINS  
Governor of Florida  
State Capitol  
Tallahassee, Florida

DEAR GOVERNOR COLLINS:

Herewith is submitted the Biennial Report of the Florida Game and Fresh Water Fish Commission for the period ending June 30, 1956, with a financial report for the 30-month period ending December 31, 1956.

Through this report we wish to make known to you, to the Members of the State Legislature and to the People of Florida, the activities and achievements of the Commission.

We feel that the Commission made a great deal of progress in its fish and wildlife work, insofar as was humanly practicable with the finances available.

Looking forward, we feel that the rapid increases of human population in Florida, plus the increase in industrial operations, and the development of wilderness areas, mean that additional finances will be needed in the future if the fish and wildlife of the State of Florida are to be properly conserved and utilized.

We feel that the overall work accomplished during the past two years is but a small portion of the work that must be accomplished in the future so that Florida may attain a full realization of its valuable fish and game potentialities.

We feel confident that the progress made by the Commission during the past biennium will be multiplied many-fold during the years to come.

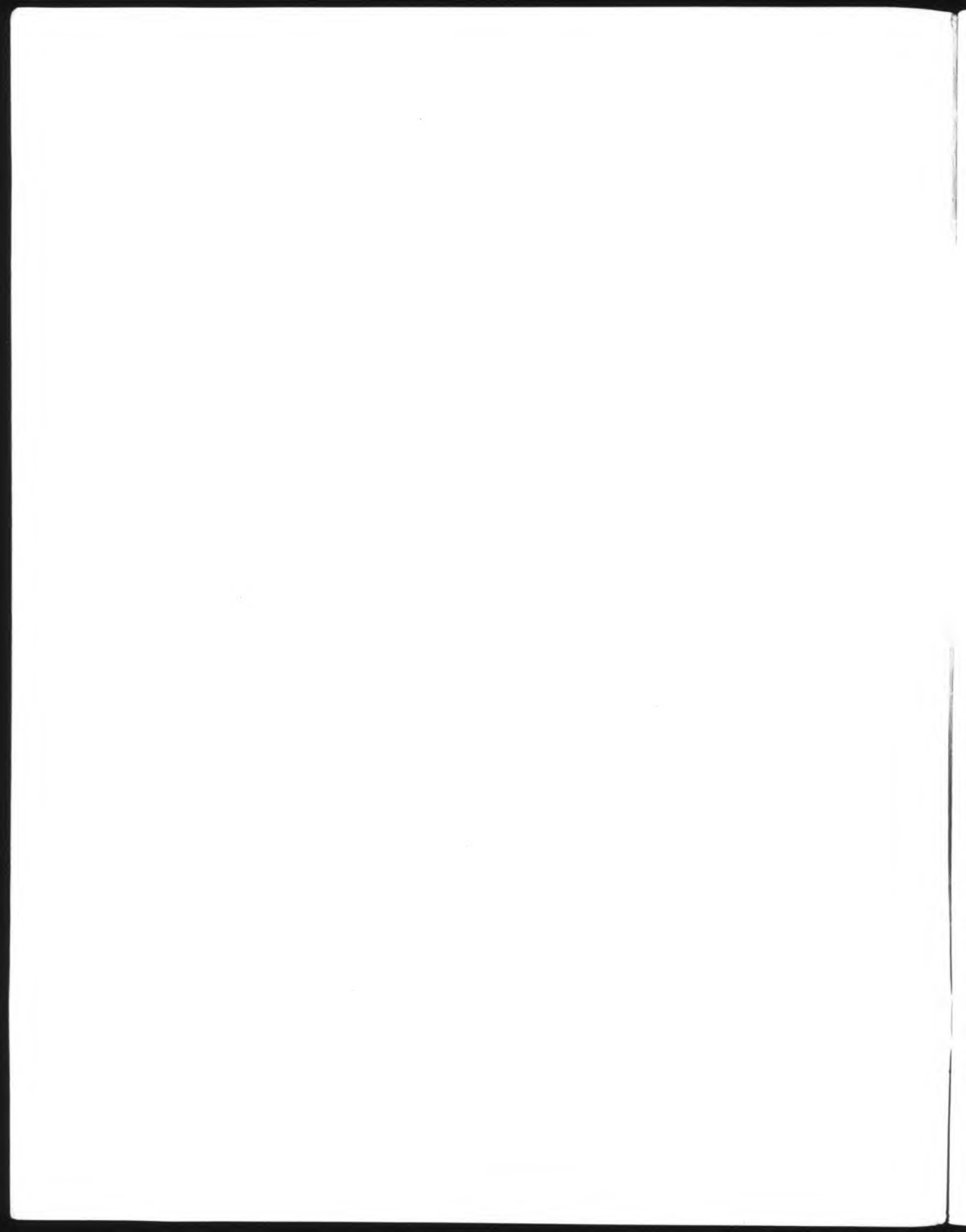
Finally, we wish to express our appreciation to the many State Officials and private citizens whose vision and cooperation have assisted so greatly in our conservation endeavor.

Respectfully submitted,

A handwritten signature in cursive script, reading "Forace F. Holland".

FORACE F. HOLLAND, Chairman

FFH:mns





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**FORACE F. HOLLAND**  
Third District  
Chairman

# The COMMISSIONERS



**TALMADGE C. HART**  
First District



**RILEY GORDON GRANGER**  
Second District

Forace F. Holland, Panama City, has served as Chairman of the Game and Fresh Water Fish Commission since appointment April 13, 1955, with a subsequent re-appointment January 8, 1957.

Mr. Holland is a lifetime outdoorsman, having fished, hunted and camped all his life. Golfing is also one of his hobbies.

As Chairman of the Commission, Mr. Holland is particularly interested in seeing that the Commission is operated on a business basis. He believes that a government business, such as the Commission, must be operated by careful, common-sense rules, whereby the best will be done for the most people.

Mr. Holland is interested in all phases of the Commission's work, and believes that we must work toward a better conservation future for the State of Florida. He believes law enforcement is an integral part of Commission work and that young people should be trained to be the adult sportsmen of the future. He believes that the game and fish management programs should produce the utmost potentialities of public fishing and hunting, insofar as is consistent with good fish and wildlife management practices.

Above all, he believes that the best of private business practices can, and must, be applied to all operations of the Game and Fresh Water Fish Commission.

Mr. Holland was born in Otter Creek, Levy County, August 13, 1906. He is owner and president of Holland Lumber Company which he began operating in 1933, and Holland Homes, Inc., which he began in 1941.

Mr. Holland was a member of the Florida House of Representatives, Bay County, during the 1943-45 ses-

sions. He also served several years as a director of the Panama City Country Club. He is a charter member of the Panama City Lodge No. 1598 B.P.O. Elks. He is a Past Exalted Ruler and Past Vice President, Florida State Elks Association. He is a Past President and Past Lt. Governor of the Kiwanis, and has served as a Director and Vice President of the Chamber of Commerce. He is also Past President of the Florida Lumber and Millwork Association, a 1950-54 director of the National Retail Lumber Dealers Association, and is now serving as an associated director of the latter organization. He is also a member of the Board of Trustees of the Florida Building Materials Dealers Exchange.

He is married to the former Miss Mary Frances Gay. Mr. and Mrs. Holland have two children, Katherine Alicia, 26, and Frances Gay, 23.

## FIRST DISTRICT

Talmadge C. Hart, Wauchula, was appointed as Commissioner from the First Conservation District January 17, 1955.

After two years of service as a Commissioner, Mr. Hart says:

"Looking back over the past two years, I can see that much has been done in furthering the major programs of the Commission.

"There have been several new Wildlife Management Areas added to insure continued good hunting for the hunters of the state, and the restocking program has provided the needed game for good propagation in all the areas.

"The fishing has been on an increase, due largely to the fine work

being done by the Fisheries Division, and the Hyacinth Control units of that Division. Many thousands of acres of water have been opened up to fishermen, as well as boat enthusiasts, by the control of the dreaded water hyacinth in many of our lakes and streams.

"The Information and Education Division has kept the people well informed about the progress the Commission has made with the various programs and this was done through the stepped-up program in the I & E section of TV programs, more news releases, more public appearances of our personnel, and various other methods of contacting the general public. The Youth Conservation Camp has been operated for the first time without a loss to the Commission, and with a large number of youngsters reaping large benefits from the lessons they learn in conservation from actually doing conservation work.

"Law enforcement personnel, equipment and technicians have been improved to considerable degree.

"I feel that the Commission as a whole has made several good steps forward toward the eventual goal of making the State of Florida the best hunting and fishing state in the Union."

Mr. Hart is a native of Paris, Tennessee, and completed his high school education in Avon Park, Florida, in 1922. He then entered business with a large crate manufacturing company, and started T. C. Hart Lumber Company in Wauchula in 1936. In 1938, he began his operations in cattle and citrus interests. He has served as vice president and director of the Bradenton Production Credit Association, director of the Hardee County Cattlemen's Association, member of the Farmer's Home Administration Committee in Hardee County, and deacon in the Baptist Church.

In 1932, Commissioner Hart married Mabel E. Johns of Wauchula. They have two daughters, Judith and Shirlene.

## SECOND DISTRICT

Riley Gordon Granger was born October 24, 1898, in Loris, Horry County, South Carolina, son of Edmund Riley and Frances (Wilkins) Granger. His father was engaged in the turpentine industry and in farming operations.

Perhaps his outstanding achievement has been organization of what is now the State Forest Ranger

School of the University of Florida. It was in January, 1947, that he assisted in organizing the Columbia Forestry School at Lake City. That school was a non-profit corporation, and Mr. Granger was made president of the corporation. So successful was the new school that those responsible for its existence and continuance arranged for its transfer to the University of Florida as a part of the university system on July 1, 1949. Since that time it has operated as the State Forest Ranger School of the University of Florida.

Mr. Granger is also president of Granger Lumber Company, Inc. of Lake City; president of the G.B.S. Corporation of Lake City, a development enterprise; director of the Southern Pine Association of New Orleans, Louisiana; director of the Associated Industries of Florida, and also a director of the local Chamber of Commerce of Lake City and Columbia County. Mr. Granger was also formerly a director of the Perry Banking Company of Perry, Florida, from 1935 to 1940. From 1926 to 1934 he was a member of the Branford Town Council, and from 1932 to 1935 he was chairman of the board of trustees of Branford High School.

He is a member of the American Legion and the Veterans of Foreign Wars. He was cited in General Order No. 64 for "distinguished and exceptional gallantry in action" at Somme-Py, France, on October 8, 1918, and was awarded the Silver Star Medal. He is also entitled to wear the decorations of the French fourragere in the colors of the French Croix de Guerre.

Today Mr. Granger is active in fraternal circles as a member of the Free and Accepted Masons. He has held the different offices of his lodge, and has been district deputy grand master under two grand masters of the Grand Lodge of Florida. He is a member, too, of the Order of the Eastern Star, in which he has served as associate patron and worthy patron. He is also active in the Ancient Arabic Order of Nobles of the Mystic Shrine. In the Benevolent and Protective Order of Elks he is a leading worker. He belongs to the Lake City Shrine Club and other groups, and attends the Methodist Church, of which most members of his family are members.

Mr. Granger married, August 14, 1922, in Perry, Florida, Merle Vansickel, daughter of Harry Ellsworth and Eva (Passmore) Vansickel. Mr. and Mrs. Granger are the parents of five children: Doris Lillian, 31; Dora Glenn, 30; Marjorie Ann, 25; Patsy Ruth, 23, and Riley Gordon, Jr., 19.

## FOURTH DISTRICT

Dr. James Watson Cosper, Jr., who is Commissioner for the Fourth Conservation District, was born May 17, 1924, in Birmingham, Alabama. He presently resides in Homestead, where he practices dentistry.

Dr. Cosper attended the University of Alabama, where he received the following degrees: Bachelor of



DR. J. W. COSPER  
Fourth District



F. DON SOUTHWELL  
Fifth District

Science and Doctor of Medical Dentistry from the School of Dentistry.

He entered the Dental Corps of the United States Navy in May, 1942, where he saw service in the South Pacific. He was honorably discharged in May, 1946.

Dr. Cospers is a member of the Veterans of Foreign Wars, the Lions and the Junior Chamber of Commerce. He serves on the Board of Directors of the Redland District Golf and Country Club. He also serves as Chairman of the Zoning and Planning Board for the City of Homestead, Florida.

Dr. Cospers is Treasurer of the Dade County Dental Research Clinic and is a member of the Board of Directors, Miami Dental Society, the Florida Dental Society, the American Dental Society, the American Society of Dentistry for Children, the International Association of Anesthesiologists, and a Diplomat of the National Board of Dental Examiners.

Dr. Cospers is especially interested in fishing, hunting and golfing. Professionally, he is especially interested in Dental Research, especially as related to restorative dentistry.

Dr. Cospers was appointed as a member of the Florida Game and

Fresh Water Fish Commission on March 22, 1956.

Dr. Cospers is married to the former Miss Evelyn Fay Sullivan. They have one daughter, Denese Marie, aged 18 months.

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## FIFTH DISTRICT

F. Don Southwell, Commissioner for the Fifth Conservation District, first came to Florida in 1917 from Michigan. Until 1931 his time was divided between Texas and Florida; building telephone lines and surveying Florida swamps and building houses in Texas.

In 1939, he left the building business and returned to Florida. He made one trip to California in 1940, to make sure that Florida was the place and in 1941, settled permanently in Ormond Beach.

Hunting, fishing and conservation have always been Mr. Southwell's hobbies. A life-long interest in perpetuation of natural resources and wildlife, along with a firm conviction that Florida should be maintained as a "Sportsman's Paradise," resulted in the years of his active

work in conservation in Florida.

Mr. Southwell accomplished much conservation work while serving the Florida Wildlife Federation as Director for many years. At times, he also served as the Federation's Treasurer, Executive Secretary, and Recording Secretary.

He is an active member of the Florida Outdoor Writers Association, and served as president of the Fifth District Sportsmen's Association in 1954, and as president of Halifax Hunting and Fishing Club for several years.

He feels that his interest and knowledge of the needs of Florida's sportsmen, and the state as a whole, led to his appointment to the Game and Fresh Water Fish Commission on June 8, 1955.

Mr. Southwell is especially interested in every phase of the Commission's work, with particular emphasis on the Youth Conservation Camp at Lake Eaton, as well as acquisition of additional managed public hunting areas, extended hyacinth control operations, and the expansion of the law enforcement and education divisions of the Commission.

Mr. Southwell married the former Miss Doris Smith in 1934.

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## THE ADMINISTRATIVE STAFF

### ADMINISTRATORS

DIRECTOR ..... A. D. ALDRICH  
ASSISTANT DIRECTOR ..... O. EARLE FRYE

### DIVISION CHIEFS

FISCAL ..... JOEL MCKINNON  
GAME MANAGEMENT ..... E. B. CHAMBERLAIN, JR.  
FISHERIES ..... E. T. HEINEN  
INFORMATION AND EDUCATION ..... ROBERT A. DAHNE

### SECTION CHIEFS

"FLORIDA WILDLIFE" MAGAZINE ..... WILLIAM F. HANSEN  
COMMUNICATIONS ..... RHETT MCMILLIAN  
AVIATION ..... WILLIAM S. DURKEE

### REGIONAL MANAGERS

NORTHWEST ..... JAMES W. BICKERSTAFF  
NORTHEAST ..... CHARLES CLYMORE  
CENTRAL ..... D. C. LAND  
SOUTH ..... C. R. REVELS  
EVERGLADES ..... FRED W. STANBERRY

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# REPORT OF PR



A. D. ALDRICH

A. D. "Bob" Aldrich began his duties as Director of the Florida Game and Fresh Water Fish Commission on April 11, 1955. Mr. Aldrich has an impressive record of conservation experience dating from 1921 when he accepted a position with the U.S. Bureau of Fisheries.

He was appointed Fish Hatchery Supervisor of the Oklahoma Game and Fish Department in 1926. In later years, he served as Director of Fisheries for the Oklahoma Game Department, Supervisor of Lakes and Recreation for the City of Tulsa, Oklahoma, biologist for the U.S. Corps of Engineers, and Acting Director of the Oklahoma Game and Fish Department.

Mr. Aldrich has long been active in the affairs of the American Fisheries Society, the International Association of Game, Fish and Conservation Commissioners, the Wildlife Society, the National Waterfowl Council and other professional organizations. He has served as Chairman of the Central Flyway, North American Waterfowl Council, Membership Committeeman of the American Fisheries Society, and similar positions in allied organization work.

Mr. Aldrich is now serving as Second Vice President of the International Association of Game, Fish and Conservation Commissioners.

**A**CCCELERATED progress in all phases of conservation work was made by the Florida Game and Fresh Water Fish Commission during the biennial period from July 1, 1954, through June 30, 1956.

In general, the Commission devoted its efforts toward rendering better service to the general public and the sportsmen of the State of Florida. This was done by improving personnel standards, clarifying operational procedures, defining channels of authority and responsibilities, coordinating activities, and bringing the program closer to the people.

Great emphasis was placed on defining channels of authority within the Commission, so as to render the department more efficient. Particular attention was devoted to improving the quality of personnel and their status of employment. General policies of the Commission were strengthened and clarified. Better liaison between the Commission and the public was established. Most particularly, the general overall scope of department activities and services was expanded into new fields of endeavor, without increasing costs or personnel.

During the biennium, there was a continuation of the program of obtaining and opening additional public hunting and fishing areas. Also continued was the effort to attain sound fish and wildlife management

practices as determined by accurate technical research programs.

There was an accelerated drive toward bringing the programs of the Game and Fresh Water Fish Commission, especially the setting of hunting and fishing rules and regulations, closer to the people.

Better coordination and efficiency was achieved in, and between, all divisions and sections of the Commission, with greater emphasis placed on law enforcement and public services.

On the overall, the activities of the past biennium will serve as a concrete indication of the determination of the Florida Game and Fresh Water Fish Commission and its employees to have a more progressive program of fish and wildlife conservation in Florida.

Following are the highlights of work accomplished during the biennial period:

## STATEMENT OF POLICY

On February 28, 1956, the Florida Game and Fresh Water Fish Commission, in formal public meeting, adopted an official statement of policy, as follows:

"During the year, it will be the policy and intent of the Game and Fresh Water Fish Commission to continue to advance the overall quality of our employees, their status as employees, and their service to the public. Important in



# GRESS

**A. D. ALDRICH, Director**

this connection will be a standardized employment system whereby the criterion for employment and working with the Commission shall be merit rather than political or personal consideration.

"The Commission will also spend a great deal of time defining and clarifying channels of authority within the department, and in specifically delegating authority down through the various divisions and channels in order to achieve greater efficiency in all operations.

Most important of all, will be the continuing attempt to improve the Commission's law enforcement program. We will continue to employ and train the highest type of Wildlife Officers and to make replacements whenever such action will improve the efficiency of the Department. We will work toward the broadening of the services of the Wildlife Officer in the field. We shall continue to improve our law enforcement equipment. We shall seek to simplify and clarify all rules and regulations so that they may be properly enforced by our personnel.

"We shall seek to extend the scope of our game management division, attaining more accurate information as to game populations, habitats, environments and related ecological factors. We shall attempt, provided adequate finances are available, to provide additional public hunting areas operated under accepted and proven game management techniques. We shall continue to improve food and cover for game. And we shall seek to improve and simplify hunting rules and regulations.

"We shall do everything possible to improve and extend the operations of our fish management division. Primary emphasis will be given to hyacinth control and elimination of roughfish. We shall continue lake and stream surveys, and investigations into fish populations and related factors. We will contemplate the construction of public piers and landings and the problems of providing access areas to many of the rivers, lakes and streams of the state, most especially in the large impoundment areas of the Everglades. We shall do everything possible to develop greater potentialities in native fish populations. We shall seek to improve the fishing rules and regulations according to sound management principles.

"We shall give greater emphasis to our program of informing and advising the public in an understandable manner as to the Commission's programs and policies, and the need for wildlife conservation rules and regulations. We shall continue to attempt to weld together a highly efficient Information and Education program. We shall create a full-fledged information program that will operate efficiently on all levels—local, regional, state and national.

"We shall continue to improve our radio communications section, and its equipment, including mobile units, air units, and base stations. We shall spend a great deal of time on property maintenance, inventories and improvement of equipment. We shall continue to streamline the financial operations of our auditing department which must keep records of all receipts and disbursements for the entire Commission.

"With the help and cooperation of the sportsmen, and the general public, which we earnestly solicit, we shall continue to the best of our ability, to efficiently perform our obligation to the public which is the conservation, protection, utilization and restoration of the fish and wildlife of Florida for future generations. All these things can be accomplished only through the cooperation and aid of all agencies and individuals concerned."

With the above policy statement, the Director, his staff officers, and employees had a clear-cut task of procedures and achievements outlined. The policy statement was of great aid in carrying the work forward.

## **CHANNELS OF AUTHORITY**

During the biennium, there was a clarification of channels of authority within the Commission, which enabled all staff officers and employees to re-evaluate and re-organize their activities and procedures.

The channels of authority were strengthened and clarified in such a manner that a direct chain of command and responsibilities was achieved, resulting in better efficiency and coordination in all divisions and sections of the Commission.

## **PAY SCALES**

Because the Commission now demands more services and efficiency from its employees, the aim of the



Commission is to gradually increase personnel base salaries, wherever possible, in order to attract and hold qualified conservation career employees.

During the biennium, the base salaries for wildlife officers was increased to \$250 per month, with automatic increases of ten percent for the first year of seniority, and two percent annually thereafter for six years, for a maximum of 22 percent over base salary. The increase in base salary immediately resulted in a higher caliber of employee applicants.

#### **MERIT SYSTEM**

During the biennium, the Commission put its own Merit System of Employee Examinations into effect. Also put into effect was a system of training all new employees before assigning them to their jobs in the field. This resulted in the employment and training of better qualified personnel.

#### **COORDINATION**

By specifically delegating authority down clarified channels of command, coordination between employees and divisions and sections of the Commission was greatly improved. Employee morale was also improved, resulting in more efficient services and work programs.

#### **PUBLIC MEETINGS**

A new policy of holding public meetings throughout the state was adopted during the biennium. The policy was especially effective in the series of public meetings held throughout the state to obtain expressions from the general public on the setting of hunting rules and regulations. This resulted in the compiling of information which will be of great value during the current biennium to aid the setting of equitable, overall rules and regulations

that will conform to the desires of the public insofar as may be possible without interfering with good, sound conservation management principles.

The public meetings also served to allow the people of the state to come into closer contact with the Commission, and its employees, to a mutual benefit.

#### **EXTRA-CURRICULAR DUTIES**

Employees of the Commission were also advised as to the necessity for becoming involved in what may be termed as extra-curricular duties—services and responsibilities which are not normally considered part of the employees' jobs. Beyond their normal Commission duties, many employees now serve on special committees and perform liaison activities between the Commission and other State and Federal agencies.

Important in this respect is the cooperative efforts of Commission personnel with civic, social and sportsmen's organizations throughout the State, especially the Florida Outdoor Writers, the press, television, radio and the Florida Wildlife Federation. Such liaison activities by Commission personnel are essential to a general and effective understanding of the Commission's wildlife conservation program.

#### **HYACINTH CONTROL**

Another new phase of activities during the biennium was administration of the state-wide Hyacinth Control program with funds appropriated by the Florida State Legislature. Along with administering the Hyacinth Control funds of \$276,500 set aside by the Legislature and under direct control and subject to the approval of the Florida State Cabinet, the Florida Game and

Fresh Water Fish Commission operated a companion Hyacinth Control program with \$100,000 of its own funds.

The Hyacinth Control program was of tremendous benefit to the people of Florida during the biennium.

#### **AVIATION**

A new addition during the biennium was the consolidation of the aviation equipment and personnel into an Aviation Section. This achieved better maintenance for the planes and motors, resulting in better safety for the pilots. It also afforded a reduction in costs through the process of having a centralized repair center, parts depot, and mechanical service shop. Creation of the new section also affords better training and operational procedures for all aviation personnel.

#### **AUDIO-VISUAL**

During the biennium, an Audio-Visual Section was added to the Information and Education Division. Audio-Visual was created to produce television and feature films concerning wildlife and conservation education. Creation of the Audio-Visual Section resulted in a decrease of costs of photography and art-work for the FLORIDA WILDLIFE Magazine as the result of having the photography and art-work created within the Commission rather than purchased from outside interests. It also greatly increased the effects of the general program to inform and educate the people to the needs for good natural-resource conservation.

#### **OTHER PROGRAMS**

Progress made during the biennium in all Divisions and Sections of the Commission is adequately presented in the various reports contained in this Biennial Report.

#### **GENERAL**

There can be little doubt that the Florida Game and Fresh Water Fish Commission made considerable progress in all phases of its activities during the biennial period. More important, the basic groundwork was laid to allow a greatly accelerated program to take effect during the current biennium. Much has been done, but a great deal more remains to be done. We feel certain that, with the help of all sportsmen and the general public, that we can continue to do our job of conserving, protecting and restoring the fish and wildlife under a wise resource-use program that will guarantee an outdoor heritage for future generations. ●







# FUTURE PROSPECTS

**N**O BUSINESS should be, or can be, operated properly without comprehensive plans for the future.

The Florida Game and Fresh Water Fish Commission has such plans. Plans which are designed to insure future satisfaction for the Florida sportsmen—the fishermen and the hunter. Plans which affect the future of our fish and wildlife. Plans which will help guarantee a heritage of natural resources for our children and their children.

We sincerely believe that much has been accomplished during past years, as the result of active cooperation from interested sportsmen and the general public. And we fully realize that much more must be done to protect, preserve, conserve and utilize our natural wildlife resources.

We, the Commission, firmly believe that there is a much brighter future for Florida wildlife interests during the coming years. We believe that sportsmen are fully within their moral and legal rights in demanding a more aggressive and effective program for Florida wildlife and the conservation thereof. We believe that it is the duty and the responsibility of this Commission to do everything within its power to implement such a program.

BUT this cannot be done without the firm and active backing of all interested sportsmen and citizens. Such a future cannot be attained without adequate finances. And it most certainly cannot be done without aggressive and progressive planning.

Here are the general plans that will be undertaken by the Game and Fresh Water Fish Commission:

First will be an improved and

more effective Law Enforcement program. The Commission plans to continue employing and training a progressively higher calibre of Wildlife Officer. We plan to continue improving the cooperation and coordination of our Law Enforcement efforts. We plan to continue improving the equipment of the Wildlife Officers, so that they may more efficiently perform their duties in the field. We plan to obtain more simplified and improved Fish and Game Laws and regulations, based on sound management principles and resource-use needs.

Number two on the list of future plans is the acquisition of additional public hunting and fishing lands. This is of utmost concern to every fisherman, hunter and wildlife student. Florida is developing rapidly. Without an aggressive land acquisition program, areas available for the average sportsman will be drastically reduced. More lands must be held in trust for the Florida fisherman and hunter, and every other citizen—public lands accessible for the enjoyment of all.

The Commission plans to work toward opening more privately owned lands to controlled public hunting, fishing, boating and general recreation purposes in conformance with sound wildlife and land management principles.

The Commission intends to discover and develop new techniques and procedures that will enable the greatest possible realization of the potentialities of game and fish populations, and fishing and hunting opportunities.

We intend to do everything within our power to study all plans formulated by State and Federal agencies when such plans will affect the waters, soils, forests, wilderness, and fish and wildlife of the State of Florida. We intend to continue, where necessary, to make recommendations for changes in any plans or programs which we consider to have a potential detrimental effect on the fish and wildlife, and other natural resources, of the State. We intend to take any

necessary steps that will help safeguard our wildlife heritage.

We plan to continue acting in our capacity of custodian and watchman of our natural resources, especially fish and wildlife.

In the future, we plan to continue developing the Commission's Merit System for Employees, to insure that all employment is based on aptitude and qualifications of employee applicants. We plan to continue training our employees so that they will be better fitted for their work.

We plan to continue serving the general public in all possible ways—Civil Defense, rescuing lost persons, aiding citizens in difficulty, furnishing information to the general public, answering calls for emergency help and transportation, and similar public service duties.

We plan to work toward a more uniform and equitable Florida fishing and hunting license structure that will be fair to one and all.

We plan to support legislation that will be beneficial to the sportsmen and to wildlife. We plan to work for legislation that will include stiffer penalties for game and fish law violations, more satisfactory control of airboats, more funds for hyacinth control and acquisition of public lands and waters, more workable laws affecting fish and wildlife, and a more uniform license structure.

The Commission also plans to improve its programs dealing with farm pond management, food and cover plantings for wildlife, youth conservation education, public information and education, and the many other vital phases of conservation activities.

We know that there is a bright future for the Florida sportsman. The Florida Game and Fresh Water Fish Commission plans to do everything within its power to work toward that brighter future. This future must be attained through the cooperation of everyone in Florida.

We are confident that we will ultimately reach the goal of realizing all of Florida's vast fish and wildlife potential. ●

# ADMINISTRATION of the COMMISSION

O. EARLE FRYE

Assistant Director

**T**HE FLORIDA Game and Fresh Water Fish Commission was created by a Constitutional Amendment passed at the general election of 1942, and becoming effective January 1, 1943. Under this amendment, there is vested in the Commission all regulatory and management authority for birds, game, fresh water fish, fur-bearing animals, reptiles and amphibians.

The Commission consists of five Commissioners—one of whom is appointed by the Governor from each of the five Congressional Districts of Florida that existed as of January 1, 1941.

The overall administration of the Game and Fresh Water Fish Commission is delegated by the Commission to a Director who is appointed by and serves at the pleasure of the five-man Commission.

Assisting the Director, and immediately under his supervision, are an Assistant Director, a Secretary to the Commission, personnel working on special assignments such as special investigators, and all Staff Officers.

Staff officers of the Commission consist of the Business Manager, the Chiefs of Game Management, Fish Management, Information and Education, Communications, Aviation, and the Magazine Editor and the five Regional Managers.

The lines of Administrative authority are as depicted in the attached diagram. This diagram shows that the Director is immediately responsible to the Commission. All Chiefs of Divisions, or Staff Officers, are, on the other hand, responsible to the Director. Division personnel are, of course, responsible to their Staff Officers.

Thus, when a policy is set by the Commission, it is administered by the Director through his Staff Officers and their personnel.

Under this arrangement, it is the Staff Officers' duty not only to attend to their particular administrative duties, but also to keep the Director, and through him the Commission itself, fully informed as to all important activities in all administrative branches.

Prior to 1951, all Game Commission programs were organized and put into effect from one state-wide office in Tallahassee. This resulted in a cumbersome procedure that resulted in a loss of vital contact with personnel working in the field, and the local problems with which they were constantly confronted. Staff Officers in the Tallahassee main office were often isolated, not only from their own personnel, but also from the sportsmen and general public of the State of Florida.

In an effort to overcome this operational handicap, the Administrative set-up was decentralized to attain closer contact with field problems and personnel.

To accomplish this, Game Commission Regional offices were established in strategically located spots throughout the state. Five Regions, and offices, were located in Northwest Florida, Northeast Florida, Central Florida, South Florida and Everglades Florida, with headquarters now in Panama City, Lake City, Ocala, Lakeland and Okeechobee.

Each Region was placed under a Regional Manager, responsible to the Commission's Director and Assistant Director. The Regional Managers are directly responsible for all activities within the geographical area

composing their Region. These include all work and personnel in law enforcement, communications, game and fish management, aviation, information and education, and budgetary matters.

In order to make this operation workable, all activities of a technical nature must be supervised jointly by the Regional Manager and the Division Chief or Staff Officer of the appropriate function.

Thus, the Regional Manager, and his personnel, are assisted, at the upper level, by various Staff Officers. All state-wide programs set into effect by the Commission are organized and coordinated, with the cooperation of the Regional Managers and their personnel, by the Division Chiefs. It is therefore possible to put any overall program into immediate effect in all points of the state, with no discrepancies in policy or administration. A state-wide program is thereby operated exactly the same in every point of the state.

The close cooperation between the Director, the Assistant Director, the Division Chiefs and the Regional Managers is the most important item in the entire Administrative set-up.

Answerable to the various Staff Officers are additional sub-supervisory personnel. To the Business Manager is delegated responsibility for the State Property Officer, and Book-keeping and Auditing personnel. The Game and Fish Management Chiefs are responsible for the leaders of Federal and State-wide Projects, such as the hyacinth control program, controlled seining, wildlife management areas, deer and turkey restoration, and water fowl and mourning dove research and management projects. The Information and Education Chief is responsible for the Supervisor of Youth Education, Chief of Audio-Visual and the five Regional Education Officers. Regional Managers are responsible for regional fish and game and education officers, and area supervisors.

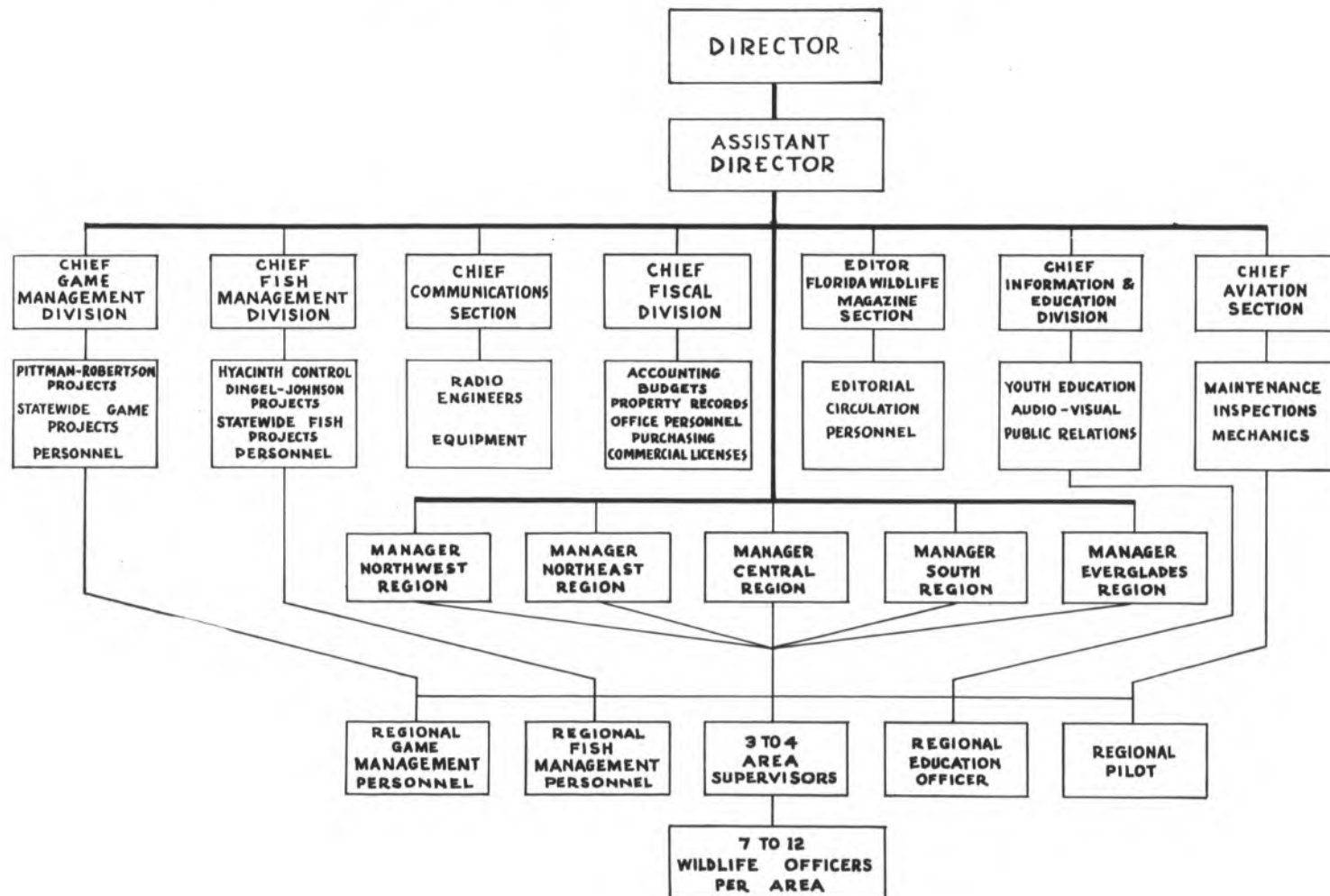
Each of these is, in turn, responsible for other personnel. For example, the Area Supervisor is responsible for law enforcement activities in from two to four counties in a Region, and is directly in charge of the activities of law enforcement personnel in such areas.

All of the lower level supervisory personnel actually participate in carrying out the work concerned. For example, Area Supervisors spend a great deal of their time in actual law enforcement as well as in supervision of law enforcement in their respective areas.

# FLORIDA GAME AND FRESH WATER FISH COMMISSION

## ADMINISTRATIVE SETUP

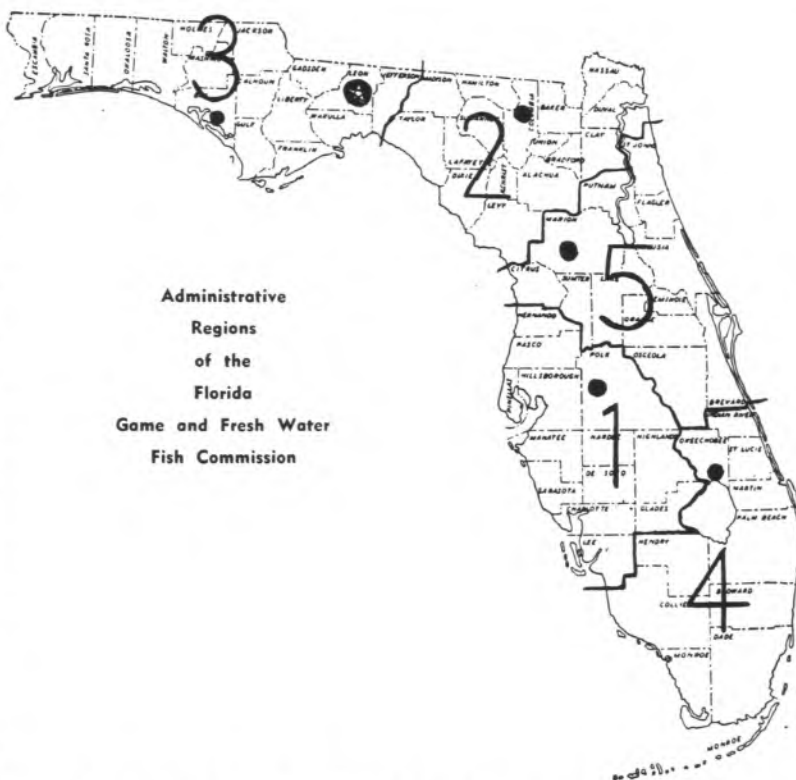
Five Commissioners—One appointed from each of five Congressional Districts  
by Governor under Constitutional Amendment



The degree to which any individual can participate in actual work depends, of course, upon the extent of his administrative duties. The farther up the administrative ladder he goes, the more he is occupied with administrative matters, and the less he is able to participate in the work he is supervising.

One of the most important duties of the Director is the collection and assimilation of information from the various staff members for presentation to the Commissioners for use in evaluating and establishing overall policies of the Commission. It is the Director's very definite responsibility to keep the Commissioners fully informed as to activities in the various phases of Conservation endeavors, and as to public opinion regarding any specific issue. This can be accomplished by frequent personal contacts with individual Commissioners, and by means of periodic reports covering Commission activities.

By the use of such direct descending lines of authority and administration, and by the returning lines of responsibility, personnel welfare and public contact, it is possible to administer a complete and well-integrated program of wildlife conservation for the State of Florida. ●



Administrative  
Regions  
of the  
Florida  
Game and Fresh Water  
Fish Commission

KEY—1. South Florida Region, Office at Lakeland; 2. Northeast Florida Region, Office at Lake City; 3. Northwest Florida Region, Office at Panama City, Central Office at Tallahassee; 4. Everglades Florida Region, Office at Okeechobee; 5. Central Florida Region, Office at Ocala.

O. Earle Frye has served as Assistant Director of the Florida Game and Fresh Water Fish Commission since 1951. He first joined the Commission as a bobwhite quail research technician on January 14, 1946, and has since rendered service in many capacities and positions.

Mr. Frye is especially noted for organizing and putting into effect a progressive game management program for the Commission, with a subsequent improvement in hunting success for the Florida hunter.

It was during the years of 1947 and 1951, while Frye was serving as Chief Wildlife Biologist that a management program including the acquisition of public hunting rights on a tremendous acreage of private lands was inaugurated. The success of sportsmen in the fields and forests has ascertained that a good management program has been instrumental in providing game for this top-notch outdoor sport.

Frye, who was born in Tennessee in 1917 and moved to Florida in 1925, first became interested in wildlife as a boy hunting and fishing



near Winter Haven. He decided to make a career of conservation when a sophomore at the University of Florida, where he received a Bachelor's Degree in Biology in 1939, followed by a Master's Degree in 1941. He then spent one year of

training in the Department of Wildlife Management in Agriculture and Mechanical College of Texas.

The Assistant Director enlisted in the U. S. Navy in June 1942 and became a naval aviator. His two years of sea duty were spent in anti-submarine warfare as a torpedo plane pilot aboard aircraft carriers in the North Atlantic. He held the rank of Lieutenant, Senior Grade and received the Air Medal with one Gold Star, and the Presidential Unit Citation before being released from active duty in January 1946.

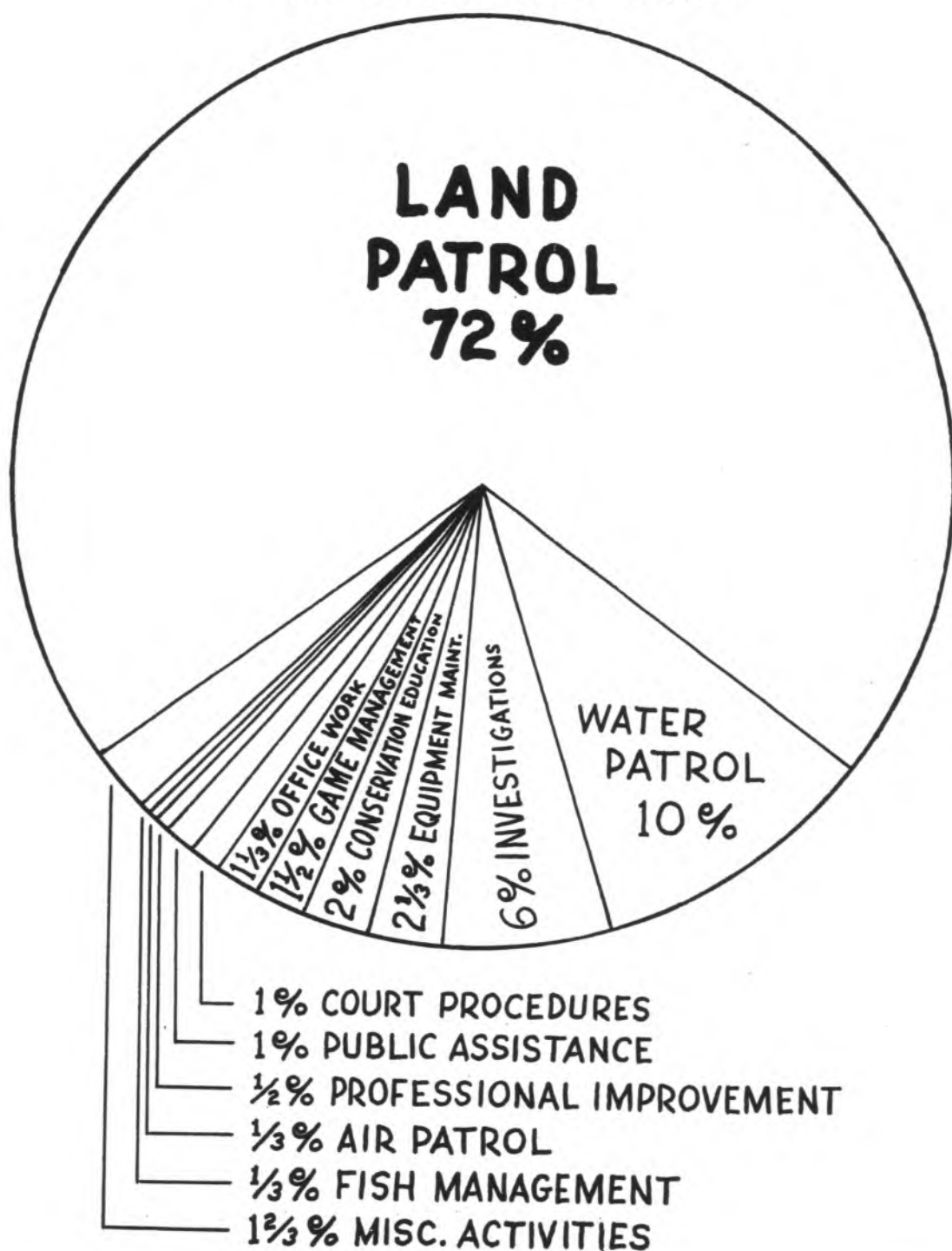
After his Military service, Frye was employed by the Florida Game Commission. In 1947 he became Chief Wildlife Biologist and spent the following four years in game management work. He was then appointed Assistant Director in 1951. He has written numerous technical and non-technical articles about wildlife and game management programs for many different publications.

He was awarded his Doctor of Philosophy by the University of Florida June 7, 1954.



***How...***

## **The Average Florida Wildlife Officer Distributes His Time**



# Law Enforcement and The Wildlife Officer

**V**IGOROUS enforcement of the Game and Fish laws will always be an extremely important phase of a good wildlife conservation program. It will always be necessary to have game and fish laws, and it will always be necessary to see that such laws are properly enforced.

Florida's Wildlife Officers have the tremendous task of enforcing the game and fish laws applying to approximately 39,000,000 acres of land and water within the confines of the State of Florida. With the second largest woodland area in the United States, and with over 30,000 named fresh-water lakes, countless rivers and streams, and 58,560 square miles of territory to patrol, the Florida Wildlife Officer is faced with a task that is all-important and never-ending.

During the biennial period covered by this report, The Florida Game and Fresh Water Fish Commission Wildlife Officers spent a

total of 712,720 hours patrolling on land, ever-alert for law violations. During the same period, they spent a total of 96,518 hours on water patrol, and 2,970 hours in air patrol.

During the same two-year period, our Florida Wildlife Officers traveled an aggregate total of 4,728,601 miles while engaged in their law-enforcement duties. They checked a total of 345,539 fishing and hunting licenses, and made a total of 4,634 arrests. They also investigated a total of 6,248 complaints and alleged violations, and seized 95 illegal nets and 26 illegal seines.

During the two-year period, the Officers spent 7,741 hours engaged in court-room procedures resulting from the 4,634 arrests. They spent 21,212 hours in maintaining their operational equipment in proper condition, and 12,535 hours in office work and reports. The Florida Wildlife Officers also reported 15,304 hours spent in game management ac-

tivities, 3,192 hours in fish management activities, and 3,848 hours in professional improvement and studies. They also spent many hours devoted to conservation education of the general public, in rendering assistance and emergency aid to the public, and many miscellaneous activities.

The above figures prove that the Florida Wildlife Officer is engaged in a tremendous task that is most important to the welfare of the State of Florida. The importance of the Wildlife Officer cannot be over-emphasized.

While in the field, the Wildlife Officer represents the authority, the responsibility, the duty and the potentiality of the entire Florida Game and Fresh Water Fish Commission. To the average fisherman and hunter, who has no other contact with the Commission, the Florida Wildlife Officer IS the Florida Game and Fresh Water Fish Commission.

It is vitally important, therefore, that our Wildlife Officers be men of good character and excellent qualifications. They must be thoroughly trained in all techniques of good law enforcement and must understand general wildlife conservation and management principles. It is important that they have both good personal character and educational background. They must have the physical stamina necessary to a lifetime of rugged work in the outdoors under difficult conditions. They must have the mental attributes necessary to keep abreast of the rapid advance in modern wildlife conservation theories.

The Wildlife Officer must, above all, be ever courteous and fair in all matters relating to the sportsmen and the general public of Florida.

The Wildlife Officer must also be capable of working independently, by himself, in wilderness areas where he cannot obtain either com-



pany, assistance or instructions. He must, in other words, be self-operating, self-governing and self-supervising at many times.

It takes many qualifications to make a good Wildlife Officer. Therefore, it is necessary that all Wildlife Officers pass a strict mental, physical and character examination before being employed by the Commission.

One of the more important aspects of the Law Enforcement branch of the Commission is that it is subdivided geographically, corresponding to the five administrative Regions of The Commission. Each Region has a force of Wildlife Officers, supervised by several Area Supervisors, under the authority of the Regional Manager.

The job of Wildlife Officer is essentially the same in all Regions of the State. The Officers must, however, adapt their work procedure to fit local circumstances, such as geography, topography, population concentrations of wildlife and humans, and seasonal variations. With good transportation equipment — cars, trucks, Jeeps, airboats, marsh buggies, horses, boats, motors, airplanes — and effective radio communications, the Florida Wildlife Officers effectively cover the entire State, insofar as is humanly practicable under present budgetary requirements.

But Law Enforcement, or the sole responsibility of enforcing the Game and Fish Laws, is not the Wildlife Officer's only duty. The Officer is also expected to serve or assist in local game and fish management work, community service, special investigations and public appearances. The Wildlife Officer is expected to make suitable speeches before organized groups, maintain his equipment in good working order, assist in fair exhibits and special promotions, and make many appearances in court. He is also concerned with maintaining good relations between the sportsmen of the state and the Game and Fresh Water Fish Commission. And, since he has specialized transportation equipment, good radio communications and the necessary experience, the Wildlife Officer is often called upon for aid in search and rescue missions involving distressed persons.

In all, the Wildlife Officer has a well-rounded schedule of duties that is extremely important in the program of conservation, protection and utilization of our fish and game.

One of the most important advances in the Commission's Law Enforcement Program during the biennium was the result of the great

improvement in cooperative work between all divisions and sections of the Commission. Better coordination of activities and responsibilities resulted in better laws and better enforcement of the Laws.

By definition, the Florida Wildlife Officer is the man who is primarily concerned with enforcement of the Game and Fish Laws. However, all male employees of the Commission, except office janitors, are actually commissioned as wildlife officers with the duty of enforcing the Game and Fish Laws, no matter what their routine jobs might be.

Just as the Wildlife Officer is concerned with good public relations, so is the Information and Education Officer concerned with Law Enforcement. And, as the Wildlife Officer is concerned with good game and fish management work, so, too, is the Game or Fish Management Technician concerned with good Law Enforcement.

The policy that it is mandatory for all employees to be concerned in all phases and programs of the Commission is of primary importance to the sportsmen of the State of Florida. It is the only way in which a true wildlife conservation program may be achieved.

The fine cooperation between the Wildlife Officers of the Florida Game and Fresh Water Fish Commission and the Federal Game Agents of the U. S. Fish and Wildlife Service in Florida should also be mentioned. The excellent teamwork between the three Federal Agents stationed in Florida and our Florida Wildlife Officers has been responsible for improved protection

not only of migratory game but of resident species as well, and has been extremely effective in many difficult cases.

Another new program during the biennium was the adoption of a Training Program whereby all new Wildlife Officers undergo a brief but comprehensive training program before being assigned to their duties in the field. As a result, the inexperienced officer is much better prepared to assume the responsibilities of his new job.

All Wildlife Officers, new and old, undergo periodic Training Schools where they receive the latest information concerning all Commission

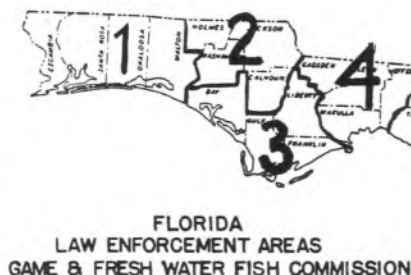


programs and activities. In Training, the accent is on Fish and Game Laws, Law Enforcement Techniques, Wildlife Code, Commitment and Imprisonment, Searches, Seizures, Forfeitures, and similar topics. Other studies include the State Constitution, Game Management, Fish Management, First Aid and Safety, Federal Court Procedures, Public Relations, and many other courses of instruction.

The well-trained Wildlife Officer is a good Wildlife Officer.

The Florida Game and Fresh Water Fish Commission realizes that only through the cooperation of an informed and interested public can game law violators be controlled and good conservation practices be employed. This is the reason why Wildlife Officers are expected to serve in so many diverse capacities.

Law Enforcement is, without question, one of the most important branches of the many varied programs and activities carried on by the Florida Game and Fresh Water Fish Commission. ●



NOTE: Special Enforcement Area — St. Johns River Area — is located in Central Florida Region and includes the St. Johns River from the St. Johns County line southward to the south line of Seminole County.

## MERIT SYSTEM for Employees

**D**URING the biennium, the Game and Fresh Water Fish Commission put into effect a Merit System of Examinations for employees.

The Commission's Merit System is designed so that all employment is based on the aptitude and qualifications of each employee. The system is designed to be a continuous program which will better fit all employees of the Commission for their particular work, and, in turn, render better service to the people of the State of Florida.

Since the first examination, October 15, 1955, the Commission has hired all of its employees under its own Merit System procedures.

An indication of the selectiveness of the Merit System is that in the first year of operation, a total of 427 applications for employment was received by the Commission. Of the 427 applicants, a total of 51 new wildlife officers was employed. The

new officers were employed as replacements.

All applicants must successfully complete a series of written examinations, with the examining being done in various locations throughout the state in order to encourage additional examinees. The examinations are then graded by an impartial authority—the State Merit System.

Those who successfully complete the written examinations are then called before an oral interview board. Those who successfully complete oral interviews are then placed on the Commission's Merit System Eligibility List for employment when vacancies occur.

New employees are then put through a one-week training period, during which they are drilled intensively in all facets of the Commission's programs, policies and operations.

After completing the training

course, the new employees are then assigned to the field.

Under terms of the Commission's Merit System, applicants taking examinations must have a high-school education, or the equivalent, and must be between the ages of 21 and 35. Applications for employment may be made to the Commission at any time. All applicants are then notified of the date and places of the written examinations.

During the first year of the Merit System Examinations, the Commission found that the overall caliber and quality of employee applicants improved steadily throughout the year, as prospective employees became familiar with the Merit System of the Commission.

As the result, the Merit System has enabled the Commission to place better-qualified and better-trained officers in the field. The increase in employee efficiency and morale has been noteworthy. ●



# GAME MANAGEMENT DIVISION

E. B. CHAMBERLAIN

— Chief —



**E**MPHASIS during the past two fiscal years continued to be placed upon the organization and operation of a well-rounded, productive program. Research, development, land acquisition, and administration all received due attention and it is felt that the past year has seen a level of effectiveness hitherto unreached in Florida's game management program. All factors contributing to sound game management were stressed, and continual effort was made to insure every project being worthwhile and productive. Where personnel, money and equipment are so meager, no non-essential work can be undertaken.

A high calibre of research produced sound results and findings directly applicable to our problems. Noteworthy are the studies dealing with wildlife resources, habitat changes, and land use in connection with the Central and Southern Florida Flood Control Project; investigations of quail, dove, deer, turkey, waterfowl and squirrel; food habits, nutritional content, and browse studies, harvest and inventory studies; and frog investigations. Probably the most important investigations and research are those being carried out in connection with water control programs of the Corps of Engineers and Central and Southern Flood Control District in the St. Johns and Kissimmee Valleys and

the Everglades. Somewhat similar and important work is being done concerning waterfowl values of various mosquito control impoundments being built in Brevard County.

Continued work in land acquisition succeeded in adding as wildlife management areas the 70,000 acre Camp Blanding, a 16,000 acre tract in Okeechobee County, and a 119,000 acre tract in eastern Collier County. The Hendry Management Area was discontinued at the request of the landowner. About 10,000 acres were added to the Richloam area and 7,000 acres to the Aucilla area. A five year lease was secured for the major tract in the Lee area, and the Fish-eating Creek lease agreement was satisfactorily renewed. An entirely new area was secured in Osceola County, approximately 22,400 acres, called the Holopaw Wildlife Management Area.

Uncertainty as to the status of the Jim Woodruff Reservoir lands, because of legislation pending through the year which would have permitted sale of the land to former owners, prevented a project being set up for development. Much time and effort were devoted to holding these lands, and eventually a compromise was reached whereby the Commission retained the choice 4,000 of the original 7,000 acres. Congress finally passed legislation to this effect. Arrangements were made to discontinue the buffer zones of the Apala-

chicola Management Area and to realign the boundaries. In addition, a tract of about 60,000 acres in the Leon and Wakulla Districts of the Apalachicola National Forest, including the 48,000 acre Simmon's Pasture breeding ground, will be opened as a management area. Several sections in private ownership south of Homestead in Dade County were secured under a short agreement which will permit planting of foods and public hunting. Much negotiation was done with the State Forest Service relative to jointly acquiring the Withlacoochee Land Use Project from the U. S. Forest Service. Preliminary negotiations with private owners were carried out relative to adding to the Gaskin Area, and to acquiring waterfowl areas in St. Johns and Franklin Counties.

Development and habitat improvement received much attention, and the major share of the funds. This work was largely centered on the management areas and involved food plots, controlled burning, clearing, and maintenance and construction of facilities. Plantings on the Homestead and Jim Woodruff areas, and turkey and hog trapping at Fisheating Creek and Myakka Park were done with state funds. Much needed equipment, including a TD -14A bullgrader, was obtained, and considerable progress gained in this important activity.

In addition to plantings for quail and turkey, goose browse was put in on the St. Marks area, duck food plantings put in on Little Talbot Island, and routine construction and maintenance done on buildings, roads, fences, and other facilities. The largest single construction was approximately 20 miles of fence built

on the Steinhatchee area. A new development project was approved for construction of boat trails on the Everglades area.

Tables 1 through 4 summarize important aspects of the program and summaries of the various projects follow.

TABLE 1. Pittman-Robertson Apportionments and Expenditures of Funds during Fiscal Years 1954-55, 1955-56 and 1956-57 with Summary of Projects by Type.

	1954-55		1955-56		1956-57	
	Amount*	Pct.	Amount*	Pct.	Amount*	Pct.
Coordination	\$ 18,517.40	7.1	\$ 25,150.67	7.7	\$ 25,581.68	7.2
Research	89,379.96	34.5	131,056.14	40.2	131,593.87	37.2
Development	103,585.16	40.0	128,050.00	39.2	144,760.10	41.2
Maintenance	47,802.15	18.4	42,099.42	12.9	50,881.96	14.4
<b>TOTAL</b>	<b>\$259,284.67</b>		<b>\$326,283.63</b>		<b>\$352,817.61</b>	
Apportionment	\$131,738.07		\$159,904.24		\$196,660.53	

\* Federal monies with matching State funds. These amounts are planned expenditures.

#### Summary of Projects by Type

	1955-56		1956-57	
Research	9		8	
Development	4	(2 containing maintenance features)	5	(3 containing maintenance features)
Maintenance	2	(both containing development features)	0	
Coordination	1		1	

TABLE 2. Wildlife Management Areas Operated in 1955-56

	Acreage		Ownership	Location by County
	Open to Hunting	Closed to Hunting		
1. Eglin Air Force Reservation	390,000	70,000	U. S. Air Force	Santa Rosa, Okaloosa, Walton
2. Blackwater		85,000	Fla. Forest Ser.	Santa Rosa, Okaloosa
3. Roy S. Gaskin	110,000		Private	Gulf, Bay, Calhoun
4. Apalachicola	100,000	98,000	U. S. Forest Ser.	Liberty
5. St. Marks	3,000	62,000	U. S. Fish & Wild. Ser.	Wakulla
6. Aucilla	110,000		Private	Wakulla, Jefferson
7. Steinhatchee	225,000		Private	Taylor
8. Osceola	65,000	42,000	U. S. Forest Ser.	Dixie, Lafayette
9. Lake Butler		96,000	Private	Columbia, Baker, Union, Baker, Columbia
10. Little Talbot Island		250,000	Fla. Park Ser.	Nassau
11. Gulf Hammock	100,000	20,000	Private	Levy
12. Ocala	185,000	90,000	U. S. Forest Ser.	Marion, Putnam
13. Tomoka	50,000		Private	Volusia
14. Sumter-Citrus	30,000		Private	Sumter, Citrus
15. Farmton	50,000		Private	Volusia
16. Croom	17,000		U. S. Forest Ser.	Hernando
17. Richloam	48,000		U. S. Forest Ser.	Hernando, Pasco, Sumter
18. Holopaw	22,000		Private	Osceola
19. Avon Park	108,000		U. S. Air Force	Polk, Highlands
20. Okeechobee	16,000		Private	Okeechobee
21. Fisheating Creek	100,000	175,000	Private	Glades
22. Cecil M. Webb	57,000	5,000	Game & Fish Comm.	Charlotte
23. J. W. Corbett	97,000		Game & Fish Comm.	Palm Beach
24. Lee	85,000		Private	Lee
25. Hendry	27,000		Private	Hendry
26. Collier	300,000	50,000	Private	Collier
27. Everglades	720,000		Central & Southern Fla. Flood Control District.	Palm Beach, Broward, Dade
28. Woodruff	6,000	1,000	U. S. Corps Eng.	Jackson
29. Camp Blanding	56,500	13,500	State Armory Board	Clay
30. Big Cypress	119,000		Private	Collier

## THE PROJECTS

### W-8-L, Charlotte County Game Management Area Acquisition

Segment 8 of this project was prepared when the Commission had opportunity to purchase additional lands in Charlotte County during the past fiscal year. This segment provided for the purchase of two interior holdings, one consisting of 40 acres and the other of 80 acres. The 40 acre tract was purchased for \$930.00, while the 80 acre tract cost \$1,760.00. Both constituted adverse interior holdings within the Commission property.

### W-11-R, Charlotte County Quail Investigation

The principal activity of the project leader during the past year consisted of compilation, organization and analysis of routine quail data collected principally by the assistant leader. The assistant leader devoted his time to the following activities: maintenance with the project assistant of approximately 285 feeders; counts of slough grass plants and seeds on areas subject to various burning and grazing treatments; collection of quail wings, crops, and heads from Charlotte County hunting clubs and from the Management Area; tabulation of sex and age classes from wings collected; taking spring and fall quail census, and collection of data from the controlled hunt.

There was an increase in the quail population in 1955-56 over 1954-55 except on Feeder Area No. 1 which showed a slight decrease. This was reflected in the excellent hunting in Charlotte County in general and the heaviest kill, approximately 4,500 birds, on the Cecil M. Webb Management Area since the area has been opened to hunting. Slough grass production was up in 1955, almost double that of the preceding year.

The 1955-56 studies showed more hens than cocks in both the hunting club populations. This has occurred only one time previously, in the winter of 1946-47. Due to the extreme rarity of this condition in quail populations, the sex ratio data will be given careful statistical analysis for possible sampling error.

Although slightly reduced from 1954-55, the quail population on Feeder Area No. 1 remains at a considerably higher level than before the feeders were increased in the spring of 1954. A pattern of census courses was set for Feeder Area No. 2 and was first worked in the spring of 1956.

### W-15-D, Farm Game Habitat Restoration

Work on this project during the past year has involved further study of the quail population on the experimental Jackson County quail management area and the distribution of planting material to landowners in the spring for quail habitat improvement. In addition, some planting evaluation studies were made on material distributed previously. No effort was made to re-establish plantings on the Jackson County experimental area that were destroyed by drought last year because of the continued very dry weather through the past winter and spring. The winter census revealed a population of 216 birds, the lowest in any of the eight winters that the area has been censused. It is believed that the severe summer drought, producing adverse hatching conditions, and changes in land use from cropland to overgrazed pasture have been the principal contributing factors to the decline.

Seed drop trays placed in plantings on the Roy S. Gaskin area last fall showed a seed yield of 603 pounds per acre for partridge peas and 380 pounds per acre for thunbergii lespedeza. This is the highest yield that has been recorded for any of the bush lespedezas in Florida. Planting material distributed early in 1956 to 35 counties consisted of 358,400 thunbergii plants, 7,900 pounds of partridge pea seed, and 3,515 pounds of common lespedeza seed. Follow-up inspections of plantings made from material distributed the previous year showed the following results: Thunbergii lespedeza — Excellent, none; Good, none; Fair, 25%; Poor 75%; partridge pea — Excellent, 5%; Good, 30%; Fair, 45%; Poor, 20%. The severe spring drought was responsible for the high number of low quality plantings.

In cooperation with Project W-11-R, a quail management bulletin for Florida was prepared, to be published early in 1957.

### W-19-R, Florida Waterfowl Investigation

Work during the period consisted of tabulating band recovery information from Patuxent, vegetation studies on mosquito control impoundments in Brevard County, inspection of areas and formulation of recommendations for interested landowners, the annual fall Florida duck census, inspection of areas involved in the Central and Southern Florida Flood Control District program, waterfowl bag checks and gizzard collection, trapping operations,

bi-weekly aerial waterfowl inventories, and analysis of carrying capacity and population data.

Perhaps the most important job was planning for and beginning a vegetation study on the Kissimmee River Valley, the St. Johns River Valley and Lake Okeechobee. A point transect method was designed for the vegetation study in order to sample vegetation systematically over a vast area. Because of the volume of data which will be obtained, mark sense cards were designed and compilation and analysis will be made by IBM machine. Results of this study will be correlated with hydrographs of the area, histories of water level cycles, food

habits studies, and with waterfowl population and carrying capacity studies.

During the past year there was in general an average number of waterfowl in south and central Florida during November and December, but drought conditions forced the birds away from the inland areas by mid-January. Waterfowl densities on Lake Okeechobee compared quite closely with last year.

During the trapping season, a total of 2,665 waterfowl was banded at four trapping stations. Double banding was done at Titusville to check on band retention. Of approximately 1,976 old type bands applied, 0.7

TABLE 3. Summary of Active Pittman-Robertson Projects Operated in 1955-56

Project	Name	Purpose	Total Cost
W-8-L	Charlotte County Game Management Area Acquisition	To purchase lands	\$ 2,690.00
W-11-R	Charlotte County Quail Investigation	To study ecology of south Florida quail	6,602.78
W-13-C	Wildlife Management Coordination	To administer and supervise program	19,224.64
W-15-D	Habitat Restoration for Farm Game	To improve quail habitat	12,989.21
W-19-R	Florida Waterfowl Survey	To study waterfowl ecology	11,070.47
W-22-R	Mourning Dove Study	To study dove populations and migrations	4,679.35
W-23-R	Palm Beach County Game Investigation	To develop better management methods	2,715.40
W-27-R	Eglin Field Deer Investigation	To study deer populations and management	4,924.34
W-31-D	Steinhatchee-Aucilla Management Area Development	To develop the Steinhatchee, Aucilla, and St. Marks Areas	23,261.35
W-32-R	Ocala Deer Investigation	To study deer populations and management	4,412.83
W-33-R	Wildlife Inventory, Harvest and Economic Survey	To learn statewide harvest and hunting pressures	14,677.29
W-34-R	Key Deer Investigation	To publish final report	1,631.25
W-35-D	Statewide Wildlife Management Area Development	To develop management areas in north and central Florida	59,938.47
W-37-M	Maintenance of Charlotte County Quail Project Area	To maintain facilities of Charlotte Area	3,369.36
W-39-R	Wildlife Investigation of the Central and Southern Florida Flood Control Project	To develop management and operational methods	16,360.01
W-40-M	South Florida Wildlife Management Area Maint.	To develop management areas in south Florida	29,714.63
W-41-R	Management Area Research	To study game populations and make management recommendations	25,820.84
W-43-D	Wildlife Development of the Central and Southern Florida Flood Control Project	To develop Everglades Area	12,573.60
W-44-D	Lake Miccosukee Development	To rip-rap dam and water control structure Prior to 30 June 1956	No costs
TOTAL COSTS			\$256,655.82

TABLE 4. PERSONNEL IN GAME MANAGEMENT DIVISION, 1955-56

Full time technicians	18
Part time technicians	2
Full time non-technical	11
Part time non-technical	8
Bookkeeper	1
Secretarial	2
Half-time secretarial	1



percent were lost, and of 1,976 new type bands 0.5 percent were lost. Two percent of the 3,953 bands applied on double banded birds were open to various degrees. The median length of time from time of banding to the time of known loss was 13 days. Apparently loose wire ends in the traps are a factor in band loss and opening. Of approximately 4,000 waterfowl that passed through the Titusville traps, there were 91 mortalities. Autopsy on some of the lesser scaup mortalities by a poultry pathologist revealed that many of the birds had a very heavy infestation of tapeworms and that many were severely emaciated. Twenty-three reports of color marked birds had been received by the end of June, 1956.

During 1954-55 banding and color marking were done at three stations. Figure eight traps were used, and coots were taken by airboat at night. A total of 2,449 birds was banded, and 1,449 were recaptured in the traps. Twenty-seven reports of sightings of color marked birds were received.

The Brevard County mosquito control impoundments are extremely important to waterfowl since it is expected that within ten years some 15,000 acres of marsh will be impounded. So far, six impoundments totaling 2,700 acres have been built. These areas promise to be very valuable for waterfowl.

#### W-22-R, Mourning Dove Study

The greater part of the project leader's time has been spent in analyzing data collected by other per-

sonnel and supervising project activities in general. Trapping was carried on at the West Palm Beach station throughout the biennium at Alligator Point in Franklin County during October, and from time to time on various management areas as conditions warranted. The random road counts by wildlife officers were made during the months of July through February. Personnel assigned to Project W-41-R made the annual call counts and collected kill data during the hunting season.

Birds at the West Palm Beach station were aged as repeats as well as new bandings, thus yielding age ratios for the total population. The ratio of immature birds during January and February has remained much higher than at any time during the preceding years of study. Study of the total population data for two years reveals that the peak population occurs in June and the lowest population in February. The smallest proportion of immature birds occurs in March. From 653 doves banded at Alligator Point during October 1955, 38 returns were reported by the end of June. This is 5.8 return. Trapping results in the life of the project show 16,905 new birds banded and a total of 27,464 birds handled. Approximately 4,000 Keysort cards have been coded for analysis of dove trapping at West Palm Beach.

#### W-23-R, Palm Beach County Game Investigations

During the biennium, a new office location was found and operations transferred. Arrangements were initiated and work has been completed

for the leasing of land in the Corbett area to a tomato farmer. Under the terms of this lease, the farmer will pay a rental to the Commission, will clear, dike and ditch approximately 250 acres to be planted to tomatoes during the coming fall and winter. After this crop is removed, the land will revert to the Commission to be planted to waterfowl and upland game foods. An economic evaluation of the area was made in order that the Corps of Engineers might be requested to proceed with the construction of the C-18 canal. Construction of a low dike across one of the large sloughs has been completed and the area cleared for planting to millet and rice. A good growth is being made but no water impounded yet, due to lack of rainfall.

Herbarium work continued through the past year in accordance with project work plans. Quadrat studies suffered because of burning by wild fires which entered the area from the outside.

Turkey feeders have been in continuous operation except for the period during the hunting season. It is now estimated that the turkey population on the area is approximately 250 birds, while the deer population is estimated to be approximately 360 animals.

Functions of this project were transferred to W-41-R 1 July 1956. However, the work program continued without interruption.

#### W-27-R, Eglin Field Deer Investigations

The present project leader was assigned to this job in September 1955. Since that time he has become acquainted with the terrain, vegetation, and people along with the wildlife problems of the area. The last quarter of the year was spent primarily on the Apalachicola National Forest and in carrying out bear damage to apiary investigations.

During the nine day 1955 archery season, the 106 archers bagged three bucks. The 8,199 shotgun hunters reported 719 legal deer, one animal to each 11.4 hunters. It is general knowledge, however, that considerably more deer were harvested but an accurate estimate of the additional number is impossible. During the 1956 spring gobbler season held from March 31 to April 8, 137 hunters bagged 12 gobblers.

A deer census by the track count method during the spring of 1956 revealed a population for Eglin Field of 8,500 animals. A similar count in January 1956 in the Apalachicola National Forest showed approxi-



mately 1,385 deer present, a population of one animal per 403 acres. However, in the Simmons Pasture breeding ground, the population is approximately one deer per 87 acres. Plans were made to provide for the opening of this, along with additional lands, for controlled hunting during the 1956-57 season. The boundary of the Apalachicola Wildlife Management Area was also realigned and the buffer zone eliminated.

#### **W-31-D, Steinhatchee-Aucilla Wildlife Management Area Development**

On the Steinhatchee unit fences were checked and repaired, four new food plots were established for turkey, and controlled burning to open thick areas was carried out. On the Aucilla and St. Marks units, activities consisted of fence repair, boundary posting, controlled burning, planting of foods for goose browse, and replacement of gates. During the year work plans were closely followed covering habitat improvement, posting, maintenance of fences and buildings, and of other facilities. The managed hunts were carried out as usual on all three units. Records of the amounts and condition of game taken, the number of hunters, and the amount of hunting pressure were kept. In addition, sex and age data on geese were recorded on the St. Marks hunt. In an effort to simplify and improve administration, the functions of this project were transferred to W-35-D with the beginning of the 1956-57 fiscal year.

A 20,000 acre fire in the sog area of the Steinhatchee unit partially destroyed nine miles of fence necessitating considerable repair. On the three units, 98 acres were planted in food plots.

#### **W-32-R, Ocala Deer Investigation**

Results of deer track counts showed approximately 6,400 deer in the management area. Considerable time was also spent on a field survey and study of the effects of the U. S. Forest Service T. S. I. program. Much time was spent in working with Forest Service personnel in order to modify the program so that it might be the very least detrimental. As a part of this work, the project leader and Forest Service personnel set up an oak seed orchard study which will give information on the effect of various T. S. I. practices on mass production. Plants were collected monthly for a protein analysis study by Florida State University. The project leader spent considerable time as a member of the Southeastern Section of The Wildlife Society, Forest Game Research Needs Committee.

Direct observations during the latter part of the summer revealed a doe-fawn ratio of 1:1.14. During the annual archery and gun seasons, one deer and two turkey were killed by 174 archers, while 445 legal deer were checked by the gun hunters.

Last winter's cold weather reduced a screw-worm fly activity to a minimum. For the first time in six years, no reports of screw-worm infestation were received during the 1955-56 hunt. Results of the mast study are inconclusive when compared to deer condition. This is probably due to the fact that the acorn crops for the last three years have averaged from fair to good and checking station personnel varied greatly in their classification of good condition of deer. Results of the deer enclosure study indicate at the present time that deer are not over-browsing the major shrubs and trees found in the area. The study did indicate that heavy cattle usage following burning may retard the growth of plant species and thus cause a decrease in available food supplies for deer. The cattle allotment for the Lake George Ranger District was terminated May 1, 1956. Two allotments, or a total of 351 cattle, are allowed on the Seminole Ranger District. The greatest competition between cattle and deer probably arises for mast with the exception of the hammock area where there is also competition for browse species.

#### **W-33-R, Wildlife Inventory, Harvest and Economic Survey**

During 1954-55 project headquarters were moved from Williston to Leesburg. The new quarters provide more space and better working conditions. The 016 key punch was turned in and an 031 key punch acquired. An 075 sorter was also acquired and much of the routine sorting and card counting may now be done in the project office.

A special report was prepared in July 1954 consisting of tabulations from the 1954 mail surveys dealing with the results of the dove seasons and the opinions of the hunters concerning the dove seasons. It is interesting to note that in connection with the question regarding split dove seasons that all districts showed significant preferences in the total, District I being in favor of the late season and all others in favor of a split or early season. However, all districts except the first showed strong opinions between counties. No patterns are discernable in the plotting of opinions on the state map and the only possible zone that could be recommended is

Wildlife  
Alligator  
migration  
on

Game  
crop  
No. 1  
agame  
cypress

View  
Wildlife  
surround

Group  
such  
birds,  
provided  
gather



Commission personnel dip coots at night from airboat. This unique method of capture yields large numbers of birds for banding when conditions are favorable.



Wildlife biologists examine seed from a thunbergii lespedeza planting on Gaskin Wildlife Management Area. These plantings produced heavy yields and were much used by quail.



Food plot planted to Pensacola Bahia on Farmton Wildlife Management Area. Such plots receive heavy usage by turkey.

Portion of Conservation Area No. 2, showing rotary marsh digger and a Hi-Oliver Crawler used for transportation. The boat trail and open area in foreground were cleared by digger.



made up of the First District and a few adjoining counties.

Kill data showed that the split season is a highly effective way in which to insure all areas of some good dove shooting.

During the past fiscal year, work was conducted on hunter bag checks, mail questionnaires, coordination of data from other sources, quail population studies, and in assisting in the planning of vegetation studies for the St. Johns and Kissimmee valleys for Conservation Area 2, and in working on problems of surveying fish camp operators and fishermen with the leader of Project F-8-R.

As a part of the evaluation of waterfowl hunting in the St. Johns and Kissimmee Valleys, economic data were collected through field contacts of waterfowl hunters at key points in this area. Data were collected by personnel of Projects W-39-R, W-19-R, W-41-R and by U. S. Fish and Wildlife Service personnel. Mean expenditures per hunter day varied in the various areas sampled between \$3.47 and \$24.77. The bag of ducks per hunter varied in the various areas sampled between 0.48 and 2.92 birds. Total waterfowl per hunter varied between 0.84 and 3.23 birds.

On the recommendation of the statistical laboratory of North Carolina State University, the answers to the 1955 permanent mailing list were matched to the answers of the same individuals in 1954. Analyses of these findings have not yet been completed. The 1956 mail surveys were conducted under the standardized procedures reported on 1 July 1955. The 1956 questionnaire con-

tained an opinion question pertaining to the closing of Mondays, Tuesdays and Fridays during the open season. Data resulting from this question were prepared as a special report.

During the 1955-56 hunt, a test of a mark sense procedure for collecting pressure statistics was made on the Gulf Hammock Wildlife Management Area. This test was highly satisfactory, and the procedures will be used on other areas during the coming year. Considerable effort has also been devoted to planning a sampling system for the determination of hunting pressures on the management areas. Such plans would use a system of roving road blocks and automatic highway counters rather than established check stations.

#### W-34-R, Key Deer Investigation

The very excellent final report of this project was printed as Technical Bulletin No. 3.

#### W-35-D, Statewide Management Area Development

Activities on the various management areas for the biennium included planting and maintenance of food plots, maintenance of fences, signs, roads, bridges, assisting in controlled hunt operations, servicing turkey feeders and obtaining data to evaluate various phases of the project.

Little Talbot Island and the Sumter-Citrus areas were added to the project during 1954-55 and Gulf Hammock in 1955-56. Twenty miles of fire lane on the Blackwater area and eight miles on the Gaskin area were planted to carpet grass. Two

Table 5. Estimated kill and hunting pressure during the 1954-55 and 1955-56 Season by resident licensed hunters in Florida. (Data in thousands.)

Species	1954-55			1955-56		
	Hunters	Kill	Days	Hunters	Kill	Days
Deer	40	8.3	270	44	9.7	290
Turkey	25	14.3	130	33	16.3	150
Quail	66	1,340	470	53	1,220	360
Squirrel	68	1,150	440	72	1,140	440
Dove (Total)	50	1,540	370	54	1,550	380
Dove (Early)	40	790	190	40	760	190
Dove (Late)	38	760	180	39	790	195
Duck	30	270	160	37	420	210
Coot	12	160	50	14	220	65
Goose	3.5	3.6	12	3.2	2.3	9
Marsh Hen	4.5	40	13	4.9	38	16
Snipe	8.4	57	32	7.7	54	20

hundred forty quail food plots were maintained on the Gaskin area. Almost 22 acres of grass plantings were prepared on the Tomoka area. These were subjected to various maintenance treatments, such as mowing, grazing, and burning. Other work on the Tomoka area included road

clearing, fire lane clearing, and controlling burning. Eight food plots were cleared and planted on the Farmton area, 2,900 acres controlled burned, 75 miles of fire lane plowed, and 11 miles of new road opened.

On the Lake Butler area, 50 1/2 acres of food plots have been plant-

ed for turkey. Hog proof fences were built around 23 acres and a storage shed constructed. Last year's plots received good usage, and both the deer and turkey populations are increasing. Particular attention has been devoted to the preparation and cultivation of food plots. All of

Table 6. Tabulation of hunting pressure and game killed on State operated Management Areas during the 1954-55 hunting season.

Area		Man Days Utili- zation	Man Hunt Days	GAME KILLED										
				Deer	Turkeys			Quail	Cat Squirrel	Fox Squirrel	Doves	Ducks	Geese	Snipe
					Toms	Hens	Total							
Ocala	01	50,300	44,000	593	2	10	12	144	2,776	101	40	141	0	2
Osceola	02	1,070	1,070	32	0	0	0	0	105	2	0	0	0	0
Apalachicola	03	265	265	8	0	0	0	0	0	0	0	0	0	0
St. Marks Gulf	05		705										332	
Hammock	11	9,400	8,350	120	52		52	23	5,187	4	4	741	5	3
Avon Park	12	920	920	1	2	8	10	1,754	97	0	59	4	0	12
C. M. Webb	13		562					4,018			3			0
Steinhatchee	14	5,350	5,150	115	6		6	25	2,452	2	0	355	0	2
Farmton	15	5,300	4,800	60	27	35	62	212	713	37	0	29	0	0
Tomoka	16	1,850	1,750	14	13	18	31	54	140	10	13	1	0	0
Corbett	17	2,050	1,900	38				306	9	0	37	24	0	0
Collier	18	5,150	4,550	47	77	102	179	695	179	101	146	33	0	0
Hendry	19	3,200	2,550	41	131	186	317	17	137	135	4	60	0	24
Sumter	20	2,850	2,600	3	32	42	74	33	5,898	3	13	507	0	3
Fisheating Creek	21	3,950	3,550	0	93	136	229	3,481	914	28	100	157	0	65
Aucilla	22	5,000	4,900	35	8		8	21	5,096	9	0	311	30	0
Lee	23	680	680	2	12	14	26	2,560	58	26	1	31	1	2
Richloam	24	1,650	1,550	17	19	19	38	373	2,525	83	2	55	0	0
Total		98,985	89,850	1,126	474	570	1,044	13,717	26,086	541	422	2,459	367	123

Table 7. Tabulation of hunting pressure and game killed on State operated Management Areas during the 1955-56 hunting season.

Area		Man Days Utilization	Man Hunt Days	Game Killed									
				Deer	Turkeys			Quail	Squirrel		Doves	Ducks	Geese
					Toms	Hens	Total		Cat	Fox			
Ocala	01	46,200	41,000	445	6	7	13	34	2,364	56	79	94	0
Osceola	02	1,200	1,200	45				0	383	6	0	0	0
Apalachicola	03	360	360	23									
St. Marks	05		767										315
Gulf Hammock	11	12,100	10,600	126	66	56	122	18	4,920	10	0	1,162	2
Avon Park	12	2,000	2,000	12	52	29	61	3,329	201	22	124	48	0
C. M. Webb	13		705					4,471			12		
Steinhatchee	14	7,600	7,000	130	35	38	73	49	4,865	9	11	391	0
Farmton	15	5,100	4,700	59	17	22	39	179	752	54	17	67	0
Tomoka	16	2,100	2,000	32	6	12	18	73	195	33	38	6	0
J. W. Corbett	17	2,400	2,200	31				1,013	8	2	4	6	0
Collier	18	6,600	5,900	40	218	241	459	200	383	233	37	141	0
Hendry	19	1,600	1,500	14	92	118	210	169	260	411	5	147	0
Sumter	20	3,000	2,700	2	39	44	83	19	5,029	1	30	699	0
Fisheating Creek	21	3,600	3,300		133	169	302	3,046	1,027	42	79	220	0
Aucilla	22	7,800	7,600	74	7	5	12	8	5,493	9	0	784	11
Lee	23	1,000	1,000	3	14	16	107	2,990	32	41	98	92	0
Richloam	24	1,440	1,360	4	9	24	33	278	1,527	86	9	41	0
Gaskin	26	780	780	15	1	1	2	152	9	29	0	1	0
Holopaw	27	460	420	3	3	4	7	353	1	2	3	0	0
Croom	28	?	?	47			9	10	1,382		5	36	0
Okeechobee	29	280	250	4	9	7	16	434	0		20	35	0
Total		105,620	97,352	1,108	690	793	1,569	16,825	28,831	1,046	559	3,970	363





Sound progressive game management program requires up-to-date information on hunter activity and harvest. Here, thousands of questionnaires are being prepared for mailing to hunting-license purchasers.

the plots put in this year are located so as to include mast bearing trees, particularly live oak. In this manner, a number of oaks will be saved which otherwise might be sacrificed to make areas available for planting of pine trees. Plantings on Little Talbot Island are very satisfactory. They were made approximately a month earlier than last year and conditions were nearly ideal. Plantings were made of buckwheat, Egyptian wheat, soybeans, cattail millet, and Japanese millet. Approximately 25 acres are involved.

Work on the Gulf Hammock Management Area has consisted primarily of fence maintenance, establishment and maintenance of food plots and improvement of roads. Particularly important was the new mile and a quarter grade constructed be-

Volume and complexity of much present-day game management work requires machine analysis. Here, wildlife biologist checks data on IBM cards which are being separated and tabulated on an electronic sorting machine.



tween Watson Bridge and Buck Island.

On the Sumter-Citrus Management Area, twenty-four and three-quarter acres were developed for food plantings. Approximately seven acres are in a low, wet area, which will be utilized by waterfowl, while the other plantings are primarily for deer and turkey. Eight food plots totaling seventeen and a half acres were developed on the Richloam Area. These were planted to Pensacola bahia grass and to chufas. Approximately 2,460 acres were control burned.

Camp Blanding was added as a management area late in March, 1956. The shortness of time limited the amount of development work which could be done, but during the latter part of the planting season fifty 1/8 acre food plots were cleared, disced, fertilized, and planted with quail foods, while three two acre plots were cleared, fertilized and planted in Pensacola bahia to improve the turkey habitat.

On the Blackwater Management Area, the existing 48 quail food plots, each 1/8 acre in size, were disced, replanted in partridge pea, and fertilized. Carpet grass was planted along fire lanes and fertilized. All quail food fence plots were repaired. Deer track counts were taken and a 5,300 acre pasture in the Blackwater was secured in order that work may be concentrated in a cattle-free area.

During the 1955-56 season the first controlled hunt was held on the Gaskin Area. It proved to be entirely successful. Little usage of food plots by quail was noted during the fall. This was due apparently to the extremely good pine mast crop. During the late winter, however, quail were flushed from more than 50% of the plantings. During this period, utilization was heavy. All of the existing quail food plantings were reworked during the late winter of 1955-56. Maintenance of lespedeza plantings consisted of mowing and fertilizing. Partridge pea plantings were disced, seeded and fertilized.

On the Tomoka Management Area, a storage shed was erected and checking stations were maintained. Twelve creosoted telephone poles were obtained from the Volusia County Commission to be used in repairing the bridge across the Big Tomoka River. Ten miles of new grade were seeded to carpet grass and sixteen and three-tenths miles of old grade were reworked by the landowners. One-half mile of fence was replaced and the entire outer boundary checked and repaired where necessary. Food plantings on

old plots were maintained and eight acres of canal bank were leveled and cultivated as a new plot. Ninety-five miles of new fire lanes were plowed and 300 miles of old fire lane were maintained. A total of 3,600 acres was controlled burned.

On the Farnton Area, four checking stations were maintained and six and a half miles of new grade were seeded to carpet grass. Fence repairs and replacement of boundary signs were made as necessary. Food plots were fertilized and seeded as necessary. A total of 2,500 acres of flatwoods was controlled burned.

On all areas in 1955-56, 170 acres of food plots were completed, 33 miles of road were planted to grasses, 726 miles of fire lane were plowed, and 15,800 acres were controlled burned.

### W-36-R, Collier Wildlife Investigations

Considerable time was spent selecting locations for grazing and burning exclosure plots. It has been a problem to find representative samples of various vegetation types in accessible locations where there is reasonable assurance that the ownership and major use of the land will not be drastically changed for some time. Suitable sites were finally selected, however.

Six turkey feeders were operated throughout the year with regular observation periods from blinds to determine the seasonal use and sex and age ratios.

Six checking stations were operated during the year and information collected on deer and turkey weights. Turkey wings and crops were also collected for food habits and age and sex ratios studies. Sight records on deer and turkey have been kept throughout the year. In April and May frequent checks were made on water holes to observe the amount of utilization by deer and turkey.

The past dry season was considerable drier than that in 1953. Evidence gathered on the utilization of the water holes indicates that during a normal dry season deer and turkey do not need artificial watering devices. Functions of this project were transferred to W-41-R at the beginning of the 1955-56 fiscal year.

### W-37-M, Maintenance of Charlotte County Quail Project Area

Activities of the present project have been in connection with improvement and general maintenance of the area.



During 1954-55, 13 bridges and one cattle guard were repaired and put in service. Four new bridges were constructed, six other bridges have been repaired, and three bridges have had their plank runways replaced. One cattle guard has been repaired. With one exception, all of the bridge work was done on Tuckers Grade. One bridge was rebuilt at the entrance to the Squire Farm Pasture and from the Bermont Road. In all of this bridge work, the county furnished labor and equipment. It is expected that remaining bridges can be repaired under the same arrangement.

One of the cattle grazing lessees constructed eight and one half miles of new fence, six of these during the present year. The other grazing lessees did not construct any fence, but cut approximately 8,000 post. Approximately 20 miles of exterior fence was painted with traffic yellow as provided for in the work plans. It will be necessary to repaint and repost six miles of fence along the east boundary because of the new fence which has been constructed. Considerable time has been spent on wood salvage operations during the year. Four three-man crews were engaged in this work with most of the wood being shipped by rail to a retort plant. Check station buildings were repaired where necessary and were repainted. During the year, approximately 20,000 acres were controlled burned, mainly being carried out by the grazing lessee under the direct supervision of the project leader. This burning was completed by the end of February.

Two wild fires caused by lightning burned approximately 250 acres.

One of the grazing lessees completed the planting of 35 acres of Pensacola grass in strips 50 to 75 yards wide and 3/8 mile long with like amounts of uncleared land between the improved strips. Unfortunately, these plantings have become almost a complete failure. Doubtless, the dry weather during the summer was partially responsible. These food strips need to be re-disced and replanted. Other food plantings on Commission lands west of U. S. 41 are in need of fertilization. This work is the responsibility of the present grazing lessee.

Eleven and a half miles of exterior fence and two and a half miles of interior fence were completed during 1955-56. Along with these fences, 11 new gates were installed. Approximately 20,000 acres were controlled burned during the early fall and winter. No burning was done after 15 February because

of the extremely dry conditions. The three checking stations on the area were maintained.

Due to the discontinuance of maintenance projects, the functions of this project will be transferred to W-45-D effective 1 July 1956.

#### **W-39-R, Wildlife Investigation of the Central and Southern Florida Flood Control Project**

A great amount of work has been done and much progress achieved on this project during the past biennium. A very elaborate and detailed set of work plans was prepared for the project renewal in January, and these plans have aided considerably in the accomplishments which have been noted so far. Work plans were closely followed on all phases of the project. As in the past, close liaison was maintained with personnel of the Central and Southern Florida Flood Control District, the Corps of Engineers, U. S. Fish and Wildlife Service, and the Marine Corps. The Corps bombing range in Area 2 was moved two miles northward to provide for area for public use in the deeper water portions. A complete set of aerial photographs was obtained for use in preparation of a vegetation type map of Conservation Area 2. Considerable work has been done in the preparation of this map, and both aerial and ground coverage have been extensive. A system of plant community classification was developed using the criterion of dominance and species designation. A differential level was run through one of the large "tree islands" in Conservation Area 2 which indicated that "tree islands" in the Everglades are actually ridges and are higher in elevation than the adjacent open marsh. Composition of the vegetation on the studied "tree island" indicated an abrupt change in vegetation with a rise in elevation of only 0.42 feet.

A sawgrass clipping study was initiated in an effort to correlate sawgrass growth increments with water levels. Green weight, oven-dried weight, and stem counts are being recorded. Seven permanent vegetative quadrats were established. Quadrats are field-checked, plotted, and vertically photographed every 120 days. Soil nutrient analyses were made from three sawgrass plots and determined to be relatively uniform.

Three experimental aerial deer counts were made and an indicated density of 2.3 deer per square miles was calculated. It was determined that the optimum time to conduct counts was either early morning or



Chufas being planted at Jim Woodruff Reservoir to provide food for waterfowl. When reservoir is flooded, water will stand one foot deep in this section.

late afternoon.

Preliminary field data indicate that fawns are probably dropped in the Everglades area during every month of the year with the peak occurring in December, January and February.

Observation of colonial birds in Conservation Area 2 indicated a peak population of approximately 5,000 herons, ibises, and egrets in early April. Detailed observations were made of *Pomacea* snail egg clusters in an effort to learn more about this extremely important food species.

Eighty-eight frogs were collected for weighing, measuring and sexing. The sample consisted of 21.5 percent males to 78.5 percent females. Saddle weights averaged out to nearly one half the total weight of the frog.

During the past dry season, approximately 110,000 acres in Con-

Improved roads on game management areas facilitate hunter access, as well as operations and administration. Wildlife biologists shown are examining new grading and log stringers on J. W. Corbett Wildlife Management Area.



ervation Area 2 and 300,000 acres in Conservation Area 3 were severely burned by wild fires. Observations so far indicate that if sawgrass is cut in water one foot deep or more and if water is held over the severed stalks for a period of four to six months, a complete kill will result. It is indicated also that sawgrass can be killed by burning during the dry season and then immediately holding water above the burnt stalks or any new shoots for a period of four to six months.

Experimental plantings of the smartweed, *Polygonum densiflorum*, were made in Conservation Area 2 with approximately 95% survival.

A special report was prepared on Lake Isotokpoga water regulations, submitted to the Corps of Engineers, accepted, and incorporated in their plans. Special reports to the Corps were partially completed regarding Area 2 and the northwest shore of Lake Okeechobee, pointing out means for protecting those extremely valuable resources. Field work was initiated in the Kissimmee Valley in cooperation with personnel of Project W-19-R.

#### W-40-M. South Florida Wildlife Management Area Maintenance

Considerable progress was made on this project despite several handicaps. The Lee County management area which had previously been handled on year to year agreements was set up on a five year lease. Negotiations were completed for acquisition of a 22,000 acre tract in Osceola County to be known as the Holopaw Wildlife Management Area, and for acquisition of a small management area in Okeechobee County. During 1954-55, posted signs were maintained on approximately 400 miles of exterior boundary on five management areas. Twenty-two 4' x 4' management area signs were erected on the various areas. Twenty-one checking stations were maintained and three were moved to new locations. Three miles of road were partly completed.

Approximately 150,000 acres were controlled burned in cooperation with the landowners and about 40 acres were planted to various game foods on the Avon Park and J. W. Corbett Management Areas. A variety of plantings was made on the Avon Park Area and detailed records kept as to planting and cultural treatments so that additional information may be gathered on the best plants to use and most suitable methods of handling them. An open sided shed 17' x 40' was constructed

of galvanized metal and lightwood on the J. W. Corbett Management Area for the storage of equipment and supplies. Fifteen miles of road on the Indian Trail Ranch were improved by the oil lessee and one and

one quarter miles of new road constructed into the south end of the Commission-owned lands of the Corbett Area. A railroad crossing using culverts and fill has been partly installed by the contractors

Table 8. Estimated number of resident licensed hunters of each species during the 1954-55 hunting season as determined by the post-season Random Mail Survey.

SPECIES	DISTRICT					STATE TOTAL
	I	II	III	IV	V	
Deer	6,500	8,300	9,800	5,200	9,700	40,000
Turkey	5,600	3,500	7,300	3,200	5,300	25,000
Quail	13,900	11,900	22,900	5,900	11,100	66,000
Squirrel	13,400	16,000	22,200	2,800	13,800	68,000
Dove (Total)	12,400	10,000	11,100	7,000	9,600	50,000
Dove (Early)	8,900	8,000	9,300	6,700	6,600	40,000
Dove (Late)	9,800	8,900	7,400	4,700	7,300	38,000
Duck	5,400	5,700	7,600	4,600	6,900	30,000
Coot	2,200	1,600	1,500	2,700	3,600	12,000
Goose	500	600	1,900	100	400	3,500
Marsh Hen	900	1,300	500	1,000	800	4,500
Snipe	2,800	1,300	800	1,800	1,800	8,400
Number of Licensees	25,300	24,700	33,100	13,800	25,500	122,400

Slight discrepancies in totals are due to method of rounding each estimate independently from detailed computation sheets.

Table 9. Estimated number of resident licensed hunters of each species during the 1955-56 hunting season as determined by the post-season Random Mail Survey.

SPECIES	DISTRICT					STATE TOTAL
	I	II	III	IV	V	
Deer	8,400	9,700	10,200	5,400	10,500	44,000
Turkey	9,900	4,800	8,300	4,000	6,500	33,000
Quail	14,800	10,600	12,300	6,000	9,300	53,000
Squirrel	15,100	16,500	23,100	2,900	14,200	72,000
Dove (Total)	13,700	10,600	12,700	7,800	9,300	54,000
Dove (Early)	9,100	7,700	10,000	6,300	6,800	40,000
Dove (Late)	10,700	8,300	8,500	4,800	6,400	39,000
Duck	8,000	5,600	8,200	6,600	8,400	37,000
Coot	2,400	1,900	1,600	3,400	5,000	14,000
Goose	300	800	1,400	300	400	3,200
Marsh Hen	800	1,300	700	1,100	900	4,900
Snipe	2,700	1,300	1,100	1,500	1,300	7,700
Number of Licensees	27,400	24,600	33,200	14,900	26,100	126,200

Slight discrepancies in totals are due to method of rounding each estimate independently from detailed computation sheets.

Table 10. Estimated total man-days of hunting pressure expended for each species by resident licensed hunters during the 1954-55 hunting season, as determined by the post-season Random Mail Survey.

SPECIES	DISTRICT					STATE TOTAL
	I	II	III	IV	V	
Deer	37,000	57,000	72,000	32,000	70,000	270,000
Turkey	27,000	17,000	34,000	17,000	32,000	130,000
Quail	197,000	78,000	89,000	33,000	75,000	470,000
Squirrel	69,000	111,000	151,000	13,000	93,000	440,000
Dove (Total)	87,000	80,000	80,000	53,000	66,000	370,000
Dove (Early)	40,000	36,000	46,000	32,000	32,000	190,000
Dove (Late)	47,000	44,000	34,000	21,000	34,000	180,000
Duck	23,000	29,000	35,000	24,000	47,000	160,000
Coot	7,000	5,000	8,000	12,000	19,000	50,000
Goose	1,100	2,400	5,900	1,000	1,700	12,000
Marsh Hen	2,600	3,500	900	3,900	2,500	13,000
Snipe	8,900	10,000	2,600	5,600	4,600	32,000

Slight discrepancies in totals are due to method of rounding each estimate independently from detailed computation sheets.

building the new Jupiter-Indian-town Road at the northeast corner of the management area. About 20 acres of food plots were disced, fertilized and planted to Pensacola bahia, and carpet grass. These plots are

approximately 40 feet wide and vary from 100 yards to one quarter mile in length.

In 1955-56 on the Avon Park area, those plots which were planted in annuals the previous year were re-

planted and fertilized. All grass plantings were refertilized. The Hendry Wildlife Management Area was discontinued at the request of the landowner. Following this, all posted signs were removed and all Commission improvements on the property were taken down.

The addition of several thousand acres to the Fisheating Creek Management Area made necessary posting of additional boundary, the building of one-quarter mile of fence, and the installation of a gate. Checking stations were painted and reblocked and window panes installed. One food plot was cleared and roads improved in several places. A total of 202 turkey was trapped from the area during the winter and released in 12 different locations.

On the Collier Management Area, the entire exterior boundary was reposted and since the location of the closed area was changed it was necessary to repost a portion of the interior boundaries. Approximately 12 miles of tram road were cleared of ties and planted to grasses in order to improve the area for turkey.

After the hunting season on the J. W. Corbett Management Area, the entire outside boundary fence was repaired and reposted. Both checking stations were painted and sealed on the inside. A grade one and a half miles long running into the area from the north checking station was constructed. In addition to the grading of the road, three large food plots were cleared during March and at present time a right-of-way inside the fence line is being plowed and cleared. Three fields totaling about 265 acres have been leased to a tomato farmer who has cleared and diked them.

A total of approximately 400 miles of boundary was posted on the management areas. Fifteen acres of food plantings were put in on Avon Park, five acres on Corbett, and 15 acres in the Homestead area. Approximately 200,000 acres were controlled burned on the various management areas. Approximately 150 hogs were trapped on Myakka Park and released in the Corbett Area and Conservation Areas 2 and 3.

With the beginning of the 1956-57 fiscal year, the functions of this project were taken over by a new development project, W-45-D.

#### W-41-R, Management Area Research

Activities during the past two years have consisted of operation of turkey feeders, deer observations, squirrel census, collection and

Table 11. Estimated total man-days of hunting pressure expended for each species by resident licensed hunters during the 1955-56 hunting season, as determined by the post season Random Mail Survey.

SPECIES	DISTRICT					STATE TOTAL
	I	II	III	IV	V	
Deer	48,000	60,000	74,000	34,000	74,000	290,000
Turkey	42,000	20,000	37,000	19,000	29,000	150,000
Quail	116,000	72,000	85,000	36,000	55,000	360,000
Squirrel	75,000	105,000	167,000	10,000	87,000	440,000
Dove (Total)	101,000	79,000	89,000	57,000	56,000	380,000
Dove (Early)	45,000	35,000	46,000	32,000	29,000	190,000
Dove (Late)	56,000	44,000	34,000	25,000	27,000	195,000
Duck	44,000	30,000	41,000	36,000	61,000	210,000
Coot	11,800	5,300	4,900	15,100	27,400	65,000
Goose	1,000	1,000	5,000	1,000	500	9,000
Marsh Hen	3,000	3,900	1,000	4,300	3,400	16,000
Snipe	6,200	5,600	1,300	3,800	3,400	20,000

Slight discrepancies in totals are due to method of rounding each estimate independently from detailed computation sheets.

Table 12. Estimated total kill of each species by resident licensed hunters during the 1954-55 hunting season, as determined by the post season Random Mail Survey.

SPECIES	DISTRICT					STATE TOTAL
	I	II	III	IV	V	
Deer	1,200	1,900	1,800	1,000	2,400	8,300
Turkey	3,200	1,800	4,600	1,500	3,200	14,300
Quail	462,000	253,000	257,000	121,000	246,000	1,340,000
Squirrel	205,000	270,000	405,000	28,000	241,000	1,150,000
Dove (Total)	353,000	358,000	338,000	208,000	287,000	1,540,000
Dove (Early)	163,000	164,000	194,000	126,000	141,000	790,000
Dove (Late)	190,000	194,000	144,000	82,000	146,000	760,000
Duck	36,000	47,000	51,000	46,000	89,000	270,000
Coot	26,000	18,000	16,000	30,000	68,000	160,000
Goose	400	600	2,300	100	200	3,600
Marsh Hen	8,000	18,000	2,000	6,000	7,000	40,000
Snipe	18,000	6,000	6,000	17,000	11,000	57,000

Slight discrepancies in totals are due to method of rounding each estimate independently from detailed computation sheets.

Table 13. Estimated total kill of each species by resident licensed hunters during the 1955-56 hunting season, as determined by the post-season Random Mail Survey.

SPECIES	DISTRICT					STATE TOTAL
	I	II	III	IV	V	
Deer	1,300	2,000	2,500	1,700	2,200	9,700
Turkey	5,100	1,700	4,200	2,200	3,100	16,300
Quail	448,000	202,000	253,000	140,000	176,000	1,220,000
Squirrel	200,000	300,000	383,000	22,000	235,000	1,140,000
Dove (Total)	428,000	307,000	370,000	223,000	223,000	1,550,000
Dove (Early)	190,000	135,000	194,000	127,000	110,000	760,000
Dove (Late)	238,000	172,000	176,000	96,000	113,000	790,000
Duck	96,000	59,000	61,000	81,000	124,000	420,000
Coot	42,000	16,000	14,000	44,000	99,000	220,000
Goose	200	600	1,000	300	300	2,300
Marsh Hen	2,900	14,400	2,500	7,400	10,700	38,000
Snipe	21,000	9,000	3,000	11,000	10,000	54,000

Slight discrepancies in totals are due to method of rounding each estimate independently from detailed computation sheets.



analysis of kill data during the hunt season, deer browse studies, vegetation studies on the Collier Area, food habits studies, turkey counts, quail call counts, deer track counts, mast studies, dove trapping, dove call counts, and the making of deer jaw bone aging boards. Attempts were also made to develop procedures for evaluating food plot utilization.

Deer observations on five management areas in 1954-55 gave a buck-doe ratio of 1:2.36, while track counts on 733.4 miles of road gave an average of 5.53 tracks per mile.

Analysis of 128 turkey crops from the more southern management areas showed acorns, cabbage palm berries, yellow-eyed grass, cypress mast, carpet grass, pine seed, wax myrtle, penny wort, and grasshoppers to be the most important food items taken. These crops were collected during the various controlled hunts.

Turkey feeder studies indicated that May, June, December, January, February and March were the months of greatest utilization.

Considerable work was done on deer browse studies, using a 100% clipping technique. Areas concerned were Lake Butler, Blackwater, Tomoka, Eglin, Chinsegut, and Inverness. Good correlations between varying degrees of deer and cattle pressure and good comparisons of various habitats have been obtained. Detailed deer browse work was done on the Collier, Everglades, and Ocala Wildlife Management Areas in 1955-56. These areas were chosen for their widely different habitat and because they represent important deer ranges. Two year old pulpwood and brush cut sand pine-scrub oak in the Ocala had 33% more available woody plants than a four year old cutting and 58% more than a 30 year old stand. On the Collier Area, the important mast plant, saw palmetto, was more abundant in areas without cattle. Levee spoil banks and tree islands of Conservation Area 2 produce a good quantity and variety of deer food plants.

Squirrel census work, primarily aimed at establishing a satisfactory technique, was done on the Lake Butler and Ocala areas and at O'Leno State Park. Results are promising, but much improvement is yet necessary. For example, a squirrel call count has been made on the Ocala management area for the past two years. The 1954 count showed an increase in replies of 52 percent. The kill increased from 1,519 in 1953, to 2,776 in 1954. The pre-season estimate of kill, assuming it would be directly proportional to the number of squirrels replying,

was 2,300. Squirrel census work has been severely handicapped by any usable check on the census technique.

Attempts were made to age and sex turkeys from feet collected at the check stations. It was found that hens could be separated from gobblers, and young gobblers from old, but young hens could not be satisfactorily separated from old. Using these and other data, the turkey kill was broken down as follows: 53% hens and 47% gobblers, 73% sub-adults and 27% adults.

During the spring gobbler season in the Third District, it was found that 16 to 30 man-days of hunting were required to kill a turkey. During the 1955-56 hunting season, turkey could be shot for a five day period in Hardee, DeSoto, Manatee and Sarasota Counties. It was in these four counties that a restoration program was begun in 1949. There was considerable local feeling that hunting would do much damage to the turkey population, although the number of turkeys had increased to a point where a season was indicated. A five day season was allowed with a bag limit of one bird. To assist in enforcing this regulation, a special snap-on tag was secured and used satisfactorily. A return post card issued with the tag provided means for estimating hunter success and harvest. Approximately 5,000 cards were issued in and adjacent to the hunt area. Of this number, 1,161 cards were returned, approximately 23%. Of the cards returned, 528 killed turkeys, 506 did not kill turkeys, and 127 did not hunt. It is estimated that the total kill was approximately 1,400 birds, probably 25% of the total population. It is believed that in this habitat, 50% to 60% of the total population could be harvested each year.

A total of 91 deer stomachs collected from ten management areas was analyzed for food contents. Only 17 food species made up the ten preferred items in 1953, '54 and '55. The three year sample consisted of 196 stomachs. The number of additional stomachs from the various areas required to give adequate samples was computed.

#### **W-43-D, Development of Everglades Conservation Area**

This project was initiated on 1 February 1955 to act as a companion to Project W-39-R. Its purpose is to provide means of access into the present almost impenetrable Conservation Areas 2 and 3 of the Everglades Management Area. At pres-

ent, the only feasible means of transportation into the area is the airboat which is expensive to operate and maintain. During low water periods, it is often impossible to get over parts of the area even by airboat. In addition to these disadvantages, the airboat is both dangerous and noisy. It is expected that the trails to be built by this project will be suitable for use by small boats with outboard motors during most of the year. Such trails providing access will, of course, be extremely valuable for administration, general conduct of the research and development programs, and for the collection of research data as well as for management of the area.

A Rotary Marsh Land Digger, manufactured in Louisiana, appeared promising and was brought over for a field demonstration. This machine cuts a four foot boat trail operating well through sawgrass which is one of the major vegetative types. The machine works best in approximately 12 inches of water. The plan of operation calls for the machine to be used in the optimum one-foot depth zone, following plotted courses through the marsh. As the water rises during the rainy season, the machine will follow this one-foot zone northward toward the shallow end of the area and as the water recedes during the dry period, it will follow the same desirable depth southward.

The marsh land digger was purchased with a June delivery date. However, due to extreme drought conditions, the project area was almost completely dry on June 1 so that delivery was postponed. With the coming of the rainy season in June and July, conditions become favorable for use of the machine in August, so that delivery was made at that time.

Low water conditions in the conservation areas in the spring of 1956 prevented the use of the rotary marsh digger. Previous low water levels severely hampered use of this machine during the preceding months. However, during the year, approximately 11 miles of boat trails and six ponds were constructed.

Fifty-four miles of management area boundary were posted and seven large management area signs were erected at major access points. Ten acres of water hyacinths were sprayed with 2,4-D. One new airboat trailer was constructed and the other two boat trailers were modified. A rotary weed chopper was acquired through intra-division transfer, and an OC-3 Hi-Oliver acquired through inter-department transfer.

#### W-44-D, Lake Miccosukee Development

This project was approved in late January 1956 and is designed to permit cooperation by the Game and Fresh Water Fish Commission with the County Commissions of Leon and Jefferson Counties, along with the Trustees of the Internal Improvement Fund, for the construction of a dike and control structure

on Lake Miccosukee. This large, shallow lake lying in Leon and Jefferson Counties is extremely important to waterfowl and fish. In recent years, it has periodically gone dry, most of the water leaving through a sink hole in the northwest corner. A large ring dike has been constructed to cut off this sink hole from the main body of the lake, and a control structure installed to permit passage of the water in either

direction as desired. The Commission's contribution will be to partially finance the installation of rip-rap along the dam and at the control structure. At the close of the 1955-56 fiscal year, however, the county had progressed only to the point of ordering the necessary materials. The project will be completed by payment of funds to the county as soon as placement of the rip-rap is completed. ●



Some 975,000 acres of Florida's National Forest lands are open to controlled public hunting. Here, Ocala National Forest hunters dress deer downed by a Lakeland hunter.



Management biologist records gram-weight of deer-range vegetation samples, and the utilization by deer or cattle. This information is used in determining conditions of deer range.



Biologists examine stand of wild millet. Extensive areas of northwest shore of Lake Okeechobee support this important waterfowl food plant.



Game management technician records weight, sex and age classification of Canada geese as party checks out of public hunting area.



# FISHERIES DIVISION

E. T. HEINEN—Chief

**T**HE DIVERSIFIED activities of the Fisheries Division of the Florida Game and Fresh Water Fish Commission during the biennium continued to make great strides in research and applied methods. Several major objectives were achieved, and numerous smaller projects completed. Some of these, such as hyacinth control, selective poisoning and chemical renovation of lakes and ponds, resulted in tremendously increased fishing areas. Other activities, such as creel census, popu-

lation studies, age and growth studies, advice to private pond owners and bait dealers, has supplied data to the Commission and information to the fishermen which will help reduce the time between fish bites. A general summary of activities related to the major projects is presented.

## HYACINTH CONTROL

The creation of the project, which for all practical purposes could be titled Hyacinth Control, was a re-

sult of numerous complaints from sportsmen and Commission personnel that many of our favorite fishing streams and lakes were being or were totally covered with water hyacinths (*Eichornia crassipes*). Other agencies previously active in hyacinth control were limited almost exclusively to efforts to aid drainage and navigation. Hence, a large majority of our inland waters received no attention toward controlling this vegetation menace to fisheries. The popularity of the hyacinth control program, which is more successful than originally expected, is exemplified by the numerous requests received weekly for consideration on treating new lakes and streams.

The 1955 session of the Florida State Legislature appropriated a fund amounting to \$276,500, subject to control of the Florida State Cabinet and to be administered by the Game Commission, for hyacinth control over a period of two years. Please note that only one-half (\$138,250) of this fund will be included in this report. The Game and Fresh Water Fish Commission also put into its budget \$100,000 for the control of noxious vegetation for this biennium. This allowance from the Commission was supplemented by interested sportsmen and various County Commissions. As a result of a concentrated effort by the Game and Fresh Water Fish Commission and the Legislature, approximately 18,000 acres of hyacinths and other types of noxious vegetation have either been brought under control or eradicated.

The chemical used in this operation acts upon a plant as a cancerous growth reacts upon animal tissue. The use of hormone type herbicides, such as 2,4-D amine and ester and 2,4,5-T, is usually successful in controlling most emergent vegetation. The average amount of herbicide required to bring about a controlled condition of one acre of hyacinths is .64 gallon. The cost per acre of vegetation killed has averaged about \$7.00, including the cost of equipment, salary, operating expense and chemical. The actual cost of chemical per acre killed averages about \$3.00.

Through the above program, numerous lakes and streams have been rid of the dreaded hyacinth. The Suwannee, Withlacoochee, Peace and parts of the Kissimmee Rivers have been brought under control to the extent that only a small amount of follow up work is required each year to maintain a desirable condition. The major remaining problem of hyacinth control lies in the St.



Johns River Basin. The U.S. Corps of Engineers control the hyacinths in this drainage only to the extent to allow navigation. It has been estimated by qualified authorities that a sum of \$50,000 for chemical alone would be necessary to bring about a controlled condition in this infested area.

#### Explanation of Equipment:

The airboat plays an important part in our spray operations in being able to penetrate into areas either too shallow or too thickly clogged with vegetation to allow an outboard. The outboard is used as follow-up equipment to treat areas previously cleaned either by airboat or airplane. The airplane is put into use as a highly efficient device on large blocks of noxious vegetation that lie in areas accessible from the air.

Florida can be proud of its reputation of introducing the first and most recognized aquatic vegetation control program.

#### LAKE AND STREAM SURVEY

The Lake and Stream Survey was initiated in July, 1954. Its main purpose is to collect and catalog information concerning public lakes over 150 acres in size, and all important streams. Where water areas with fishery problems are encountered, recommendations are made by the survey team to correct the troubles.

Information of interest to sports fishermen is published periodically in fishery bulletins, and distributed to interested parties. Other detailed biological data are kept on file at the Commission office in Tallahassee.

One bulletin entitled "Fish and Fishing in Leon and Gadsden Counties, Florida" has been published and distributed. Additional copies

are on hand at the office in Tallahassee. The next publication is to be on the Apalachicola River system. Over half the field work was completed in 1955, when the survey team was moved to south Florida to make a fishery investigation on Lake Okeechobee.

In the Lake Okeechobee investigation, the Lake and Stream Survey cooperated with the Commission's River Basin Study project on the field work, and an 83-page technical report was made presenting the results. The purpose of the survey was to obtain biological data that would enable the Game and Fresh Water Fish Commission to make recommendations to the Corps of Engineers concerning a proposed dike along the northwest shore of Lake Okeechobee. It was to the Commission's interest to recommend the dike alignment that would be the least detrimental to the fishery of Lake Okeechobee.

It was found that the broad shallow shore area around the northwest shore of the lake made an important contribution to the general fishery of Lake Okeechobee. The dike should be placed where it would cause the least interference in this area.

The following graph (page 35) shows a comparison of gill net catches between the northwest shore area (included) and the east shore (diked).

The Lake and Stream Survey took part in a general fisheries investigation of Lake George in Putnam, Volusia, and Marion Counties, Florida, in the early part of 1956. The survey team's part in this investigation was fish population sampling by spot poisoning and trawling. A comparison was made between trawls made in 1953 and 1956. A technical report showing the results



of the trawl comparisons and the spot poison samples was incorporated into the general report on Lake George.

Upon completion of the report on Lake George, the Lake and Stream Survey was called back to Northwest Florida. There work was begun on Merritt's Mill Pond, a 340-acre impoundment near Marianna, Florida. For many years, this body of water had one of the most important sports fisheries in Northwest Florida. In recent years, however, there has been a sharp decline in the size of the fishes caught, principally bluegill. (See tables, pages 32-33, showing creel census results in 1951 and 1956.)

An investigation of Merritt's Mill Pond showed an overpopulation of bluegills (over 6,000 per acre) and a rank growth of submerged vegetation which covered most of the bottom of the pond. Therefore, recommendations were made to draw the impoundment down to a low level during the winter months.





Known as "The Spider," because of its peculiar rigging, the selective electrical roughfish control unit was developed by the Commission, and is proving effective for control of certain types of undesirable fish.



Fish are attracted to and momentarily stunned by impulses from electrical grids. By regulatory controls, various charges of electricity may be applied to the water to take undesirable fish as an aid to effective fish management.



Spot poisoning and sampling techniques are often used by fish management personnel. Techniques aid analysis of bodies of water and compositions of fish populations.

This was in order to decrease the population of bluegills and to help control the submerged vegetation by exposing it to the open air.

At the present time, Merritt's Mill Pond has been drawn down and the effects of the drawdown are being closely observed to insure a proper fish population balance when the pond returns to its normal level. The pond will be raised in time for bass spawning.

During the latter part of 1956, a probable new species of bass (Chipola Bass) was collected by the Lake and Stream Survey team from the Chipola River near Marianna, Florida.

The Chipola, or "shoal", bass at the present time has been found only in a small section of the Chipola River. In this section, the bottom is of limestone and the water is clear and fast flowing. There are numerous rapids or shoals with deep pools in between. In fighting qualities, the new bass is probably comparable to the smallmouth bass found in states other than Florida.

At the present time, 1956-57, the Lake and Stream Survey is conducting field work on North Bay near Panama City, in Bay County, Florida. Bay County plans to impound this area of salt water and convert it to fresh water for a water supply reservoir to be used by the town of Panama City and the surrounding county. The Game and Fresh Water Fish Commission is interested in the proposed new impoundment from a fresh water fishery standpoint.

Future work for the Lake and Stream Survey will include the completion of field work on the Apalachicola River system and investigations of "trouble" spots in Northwest Florida.

**TABLE 1**  
**CREEL CENSUS**

**Merritt's Mill Pond—September, 1956**

Number of People Contacted—59

Total Number of Hours Fished—140.5 hr.

Number of Hours Per Fishermen—2.4 hr.

Total Number of Fishes Caught—374

Number of Fishes Per Fisherman Hour—2.7

Species	No.	Wt.	% Composition		
			No.	Wt.	Av. Wt.
Bluegill	320	31.9 lb.	86 %	68 %	.1 lb.
Redbreast	23	2.5	6 %	5 %	.1
(Willow Bream)					
Shellcracker	15	6.3	4 %	13 %	.4
Largemouth Bass*	12	5.4	3 %	12 %	
Stumpknocker	2	.1	0.5%	0.2%	
Golden Shiner	2	.5	0.5%	1 %	

\* One of the bass checked weighed 3.6 pounds

**TABLE 2**  
**CREEL CENSUS**

**Merritt's Mill Pond—June, 1951**

Number of People Contacted—82

Total Number of Hours Fished—395.5

Number of Hours Per Fisherman—4.8

Total Number of Fishes Caught—1,284

Number of Fishes Per Fisherman Hour—3.3

Species	No.	Wt.	% Composition		
			No.	Wt.	Av. Wt.
Bluegill	826	211.0 lb.	64 %	65 %	.26 lb.
Shellcracker	408	93.0	32 %	29 %	.23
Largemouth Bass	40	17.2	3 %	5 %	.43
Warmouth	1	.2	0.1%	0.1%	
Stumpknocker	8	1.1	0.1%	0.3%	
Speckled Catfish	1	1.0	0.1%	0.3%	



## RIVER BASIN FISHERIES INVESTIGATION

The River Basin Fisheries Investigations was undertaken to study proposals and make recommendations regarding fish management on the lands and waters included in the Central and Southern Florida Flood Control District project for which the U. S. Corps of Engineers is the planning and construction agency. The project boundaries include all or part of 17 central and south Florida counties and some of Florida's major rivers and lakes, i.e., the Kissimmee River, Lake Okechobee, and a major portion of the St. Johns River. (See map page 38.)

The total value of surface water utilization administered directly or indirectly by the Game and Fresh Water Fish Commission is \$128 million dollars annually. Of this total, sport fishing alone makes up \$83 million dollars annually; these values are increasing about \$3 million dollars annually. The fresh waters within the River Basin Fisheries Investigation project are major contributors to this already large and ever increasing business. Tourism is one of Florida's biggest businesses, contributing over a billion dollars in 1955, and our fresh water resources are an integral part of tourism and associated recreation sought by residents and visitors alike.

The Game and Fresh Water Fish Commission is acutely aware that a water control project of the type being formulated for central and south Florida could seriously impair the fresh water resources. Consequently, the fisheries investigations of the River Basin Fisheries Investigation project was formed to study these engineering proposals. This project was initiated November 1, 1955 as a cooperative Federal-State study financed through the provisions of the Dingell-Johnson Act.

The purpose of this project is to act as technical

**TABLE 3  
CREEL CENSUS**

**Meritt's Mill Pond—July, 1951**

Number of People Contacted—88  
Total Number of Hours Fished—245.5  
Number of Hours Per Fisherman—2.8 hr.  
Total Number of Fishes Caught—783  
Number of Fishes Per Fisherman Hour—3.2

Species	No.	Wt.	% Composition		
			No.	Wt.	Av.Wt.
Bluegill	301	93.7 lb.	38%	38%	.31 lb.
Shellcracker	249	77.8	32%	31%	.31
Largemouth Bass	219	74.1	28%	30%	.34
Warmouth	14	3.2	2%	1%	

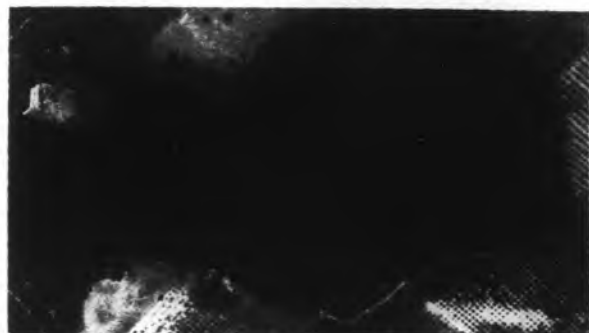
Below is a table giving by species the estimated numbers and pounds of fishes per acre in Merritt's Mill Pond. The estimates were made from the results of spot poison samples.

**TABLE 4**

Species	Number Per Acre	Pounds Per Acre
Largemouth Bass	873	18.8
Warmouth	489	7.1
Stumpknocker	62	.4
Shellcracker	644	11.0
Bluegill	5,973	62.6
Redbreast (Willow Bream)	35	.5
Brown Bullhead (Speckled Cat)	64	1.8
Yellow Cat	6	.2
Miscellaneous Fishes	940	1.9
Total Per Acre	9,086	104.3



Aerial spraying of hyacinths is an important part of the Florida fish management and water improvement program.



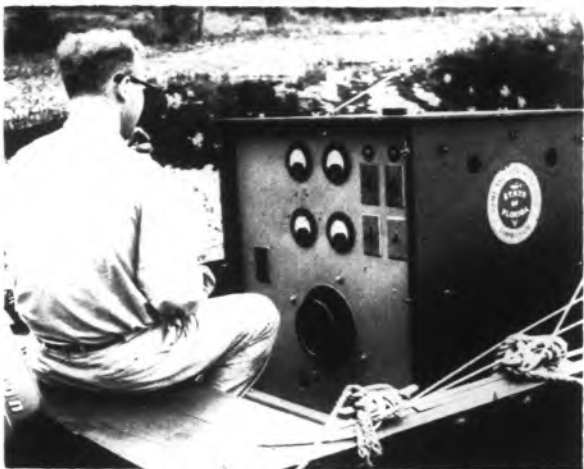
Before spraying, aerial photographs reveal extent of hyacinth infestation in a Florida lake



After spraying, treated lake reveals extent of hyacinth control. Complete elimination of hyacinths is rarely possible, so area must be re-treated periodically.



Bass fishing is Florida's top fresh-water fishing. This 6-lb. 4-oz. largemouth black bass was taken from Lake Okeechobee



Commission's developer of "The Spider" sits before operating panel of the selective electrical roughfish control apparatus.



Underwater device for sampling bottom vegetation gives regulated-distance samples by utilizing a "mouse-trap" catch device.

advisors to the Corps of Engineers, the planning agency, on the mitigation of losses, and the possible increment of benefits to a valuable fishery resource.

Before initiating this fisheries project, a study was made to determine the major factors of flood control construction that would affect the fishery resource. It was found that ditching and diking, water fluctuation control, and the subsequent effects each would have upon the fishery population and, necessarily, the economics, were the primary factors.

Ditching and diking takes many forms, i.e., channelization of a river, dikes placed on the edge of an existing flood plain, etc. In most cases this construction work will be done in shallow water or other areas that are biologically important and must be maintained if the existing population of fishes are to continue to perpetuate themselves in numbers great enough to provide good fishing. This shallow water, littoral area, is thought of as the nursery grounds for most species of fish, and construction work often seriously damages or destroys these valuable food producing and spawning areas.

Fluctuating water levels are highly desirable from the standpoint of fish production. Planning in the River Basin Fisheries Investigation Project specifies water level manipulation that varies considerably with existing conditions.

Economic information is compiled on a state-wide basis as well as for specific areas.

Project activities are designed to inventory existing biological conditions in areas under consideration for flood control construction.

Biological data when coupled with economic data gives a relatively complete picture of what the effects of construction will be on an area as well as the pre- and post-construction value of the area. All data, along with recommendations, are submitted to the Corps of Engineers in the form of reports. Three such reports have been written to date: Lake Istokpoga, Conservation Area #2, and Northwest Shore of Lake Okeechobee.

### SELECTIVE POSONING

Selective poisoning techniques as worked out by the Fisheries Division have been notably successful. The destruction of large poundages of gizzard shad and threadfin shad has resulted in tremendously improved



Underwater soil sampling device assists fish management technicians in their work.

sportsfishing, particularly in lakes which have large populations of black crappie. The largest lake treated was Newnan's Lake, 6,200 acres in area. Much interest is being displayed for similar work to be conducted on Lake Apopka, which is 48 square miles in extent.

The basis for continuing this work on a stepped-up scale is contained in a series of experiments which were conducted under Federal Aid auspices. Briefly, these experiments have consisted of studies of fish populations in small lakes containing large proportions of shad, and the change wrought in the fish populations as a result of selective poisoning. As many as four treatments to determine the effects of different concentrations of poison with different climatological factors have been accomplished on some lakes. Selective poisoning promises to be a major fishery management method on Florida lakes.

### ELECTRICAL FISH CONTROL

Application and experimental work with the Commission's experimental selective electrical roughfish apparatus has provided the basis for the design of a unit which will be used primarily for control work. The low water of the Glades region concentrated tremendous numbers of gar and mudfish in the canal region. This in turn enabled the Commission to study the effects of various electrical input voltages on large numbers of fish. An innovation in this work was the development of a method of concentrating gars so that this machine could take large numbers without moving long distances. A baiting device was used for this accomplishment.

### HATCHERIES

Blackwater Hatchery, located at Holt, produced during the year 1955 a total of 46,631 bass, 102,800 bream, bass and shell-crackers, and 1,062,351 bluegills. During 1956, 67,990 bass and 1,474,100 bream were produced. Winter Haven Hatchery, located at Eagle Lake, produced during the year 1955 a total of 471,249 bass and 179,300 bream. During the year 1956, 408,980 bass and 160,490 bluegills were produced.

### REGIONAL FISHERIES EXTENSION

The work done by the Commission's Regional Fisheries Extension technicians is individually covered in the various biennial reports of the five administrative regions.

On a state-wide basis, the regional fisheries extension technicians accomplished the following:

Stocked 1,182 bodies of water. Inspected 2,077 lakes and ponds. Stocked 2,072,740 bream, of which 421,500 were obtained from the U.S. Fish and Wildlife Service at Welaka during the fall of 1956, and the remainder from Commission hatcheries. Stocked 414,110 bass.

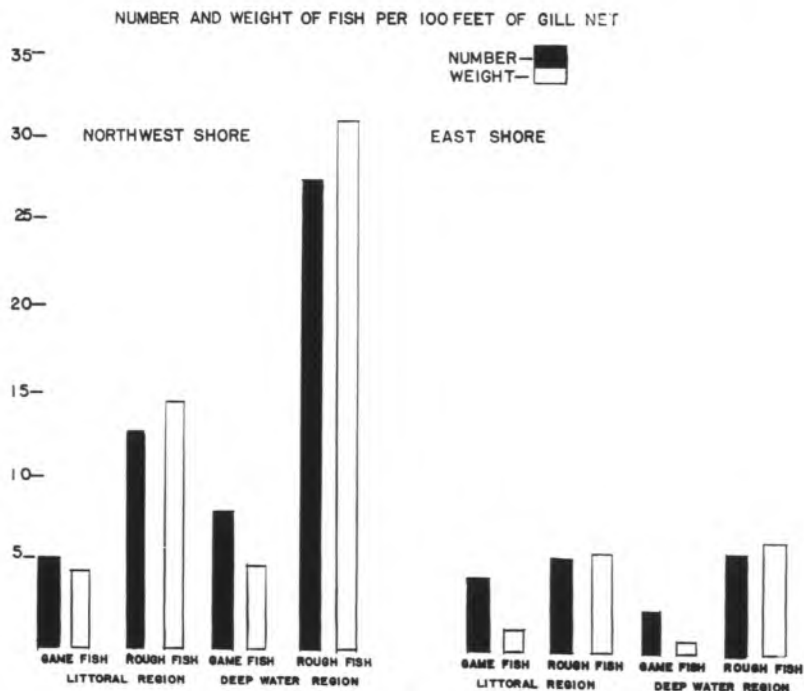
Regional technicians also participated in various projects, surveys and investigations, which are discussed in detail in the various regional reports. ●



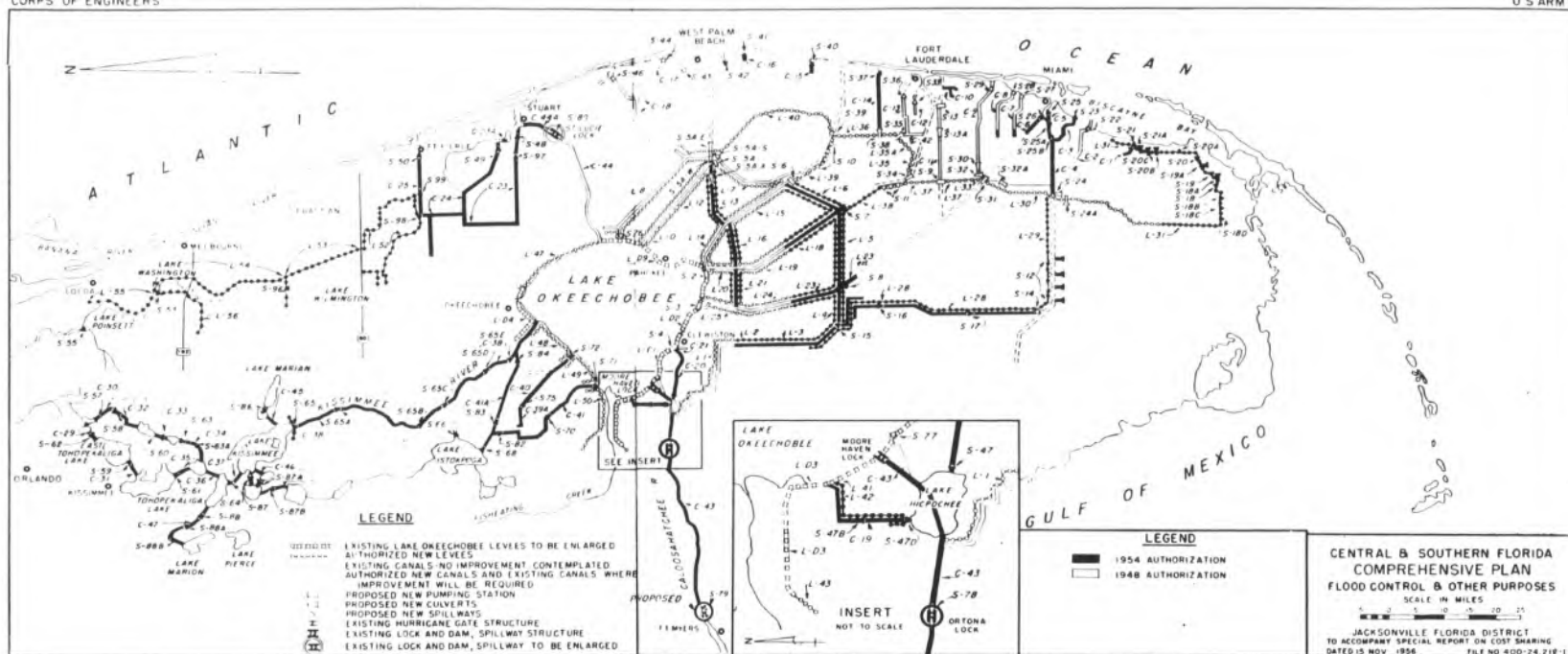
Depth echo sounding equipment gives a revealing graph of contours of bottoms and depths of water in various lakes and streams.



Chipola, or "Shoal," bass, from all indications, is a new species of Florida black bass, located during the biennial period by Commission Lake and Stream survey technicians.



Graph showing comparative gill net catches between northwest and east shores of Lake Okeechobee.



# **CENTRAL AND SOUTH FLORIDA COMPREHENSIVE ENGINEERING PLAN FOR FLOOD CONTROL AND OTHER PURPOSES** **SITE OF RIVER BASIN FISHERIES INVESTIGATIONS** **DESIGNED TO STUDY ENGINEERING PROPOSALS PRESENTED IN ABOVE MAP**

(SEE PAGES 35-36)



# FISCAL DIVISION

JOEL McKINNON

-CHIEF-

**N**O MONEY is received by the Game and Fresh Water Fish Commission from any source except the State Game Fund. All money in the State Game Fund results from operation of the Commission and the administration of the laws and regulations pertaining to fish and wildlife.

Under the Constitutional Amendment which created the Commission, the money in the State Game Fund results from sales of hunting and fishing sporting licenses and permits, commercial licenses, court costs, sales of Commission-owned equipment, timber and land, and oil and grazing leases. Federal Aid monies from the Pittman-Robertson and Dingell-Johnson programs are also received.

By law, the Commission cannot obligate itself beyond the current resources of the State Game Fund, unless specifically authorized to do so by the State Legislature.

As the result, the Commission operates primarily on money received from the sale of fishing and hunting sporting licenses, sold by the County Judges, plus some finances from additional revenue sources.

The money which accumulates in the State Game Fund is used by the Commission as it deems fit to carry out the provisions of the Constitutional Amendment which created the Commission. The Commission, by law, cannot spend the State Game Funds for any other purpose than that mentioned above.

Since the State Game Funds are accumulated primarily from the

sale of licenses, there is no way of accurately forecasting what amount of revenue will be available to the Commission during any coming year. The Commission, therefore, operates on what it terms an "Anticipated Budget." The Commission "anticipates" what it will receive during the coming year, and then prepares the Anticipated Budget.

If, during the year, the revenue does not prove to be what was anticipated, the Commission has no alternative but to spend less than it anticipated spending. If, however, revenue proves to be more than anticipated, the Commission can then spend more than it anticipated that it would be able to spend.

The Commission, of course, is able to draw upon its experienced Fiscal personnel in making up the annual Anticipated Budget of Receipts and Disbursements.

Since the Commission has no other sources of income beyond that in the State Game Fund, it can spend only the money received during any current year, plus any amount that may be carried forward in the State Game Fund from previous years.

It should be emphasized that the Commission does not have the power to set the amount of the various fishing and hunting licenses or permits. Only the State Legislature has the power to set costs of the fishing and hunting licenses and permits.

It should also be emphasized that the Commission operates on its own sources of revenue, which revenue is received into and disbursed from the State Game Fund.

The Fiscal Division of the Commission has many varied duties pertaining to the financial transactions of the Commission.

Since the Commission is a self-supporting agency, with its finances derived primarily from the sale of licenses and permits, plus Federal Grant-In-Aid monies, the Commission must carefully observe its financial status at all times.

The Fiscal Division records all Commission receipts, which average \$165,766.88 per month. It also records all disbursements, which average \$161,558.05 per month.

Total receipts for 1954-55 was \$1,989,202.58, and receipts for 1955-56, \$1,891,464.02. Disbursements were \$1,938,696.59 for 1954-55, and \$1,923,810.45 for 1955-56.

Along with recording the financial transactions of the Commission, the Fiscal Division, also checks and codes all invoices prior to submission to the State Comptroller for payment from the State Game Fund.

All arrests for violations of the game and fish laws are also recorded by the Fiscal Division, and the respective Counties are billed for court costs just as soon as the cases are disposed of in court.

The Fiscal Division also compiles all operational costs records on all Commission vehicles. Per mile cost of operating each vehicle are also determined and reported monthly. This enables the Commission to keep a close check on the cost of operations, and determine the proper time for disposition—sale—of vehicles.

The Fiscal Division also draws up the payrolls each month, and also keeps up with each employee's insurance and retirement deductions. The payroll for the Commission averages over \$89,000.00 per month for approximately 285 employees.

Since 78 percent of the Commission's revenue is derived from sale of various types of license and permits, the Fiscal Division spends a great deal of time drawing up specifications for such license and permits. All sporting license are sold by the 67 County Judges, and the Fiscal Division distributes the licenses to the respective County Judges. Commercial license are sold by the Commission's Fiscal Division, and mailed direct to the applicants.

The Fiscal Division also issues calls for bids for purchase of new equipment, and sale of old equipment. It supervises all purchases over the sum of \$25.00, and issues purchase orders for same.

The Fiscal Division also has a

Property Officer, who is responsible for recording and inspecting all property of the Commission, and seeing that proper Memorandum Receipts are issued for employees holding such properties for use in their work programs.

Because of the Commission's financial operations, whereby all monies received in the State Game Fund are disbursed for improved conservation and law-enforcement programs, the Commission's disbursements for the past ten-year period have steadily increased in proportion to the increase in receipts. The work of the Fiscal Division has, therefore, increased steadily over the years.

The following pages contain a complete statement of Commission receipts and expenditures for the fiscal years 1954-55 and 1955-56, as well as for the first six months of the fiscal year 1956-57, ending December 31, 1956.

Also included are circle-graphs demonstrating financial expenditures in various departments, as well as comparative receipts, and additional information. ●

## GENERAL FIXED ASSETS

1954-55

General Fixed Assets (Cost Valuation) as of June 30, 1955

Land and Buildings .....	\$ 525,963.60
Aircraft Equipment .....	26,633.22
Automotive Equipment .....	355,687.70
Marine Equipment .....	92,409.02
Motors .....	\$29,568.11
Boats .....	38,297.12
Trailers .....	24,543.79
Office Furniture and Equipment .....	38,151.79
Photographic Equipment .....	9,358.29
Radio Equipment .....	123,248.12
Field and Other Equipment .....	52,276.28
Livestock .....	145.00
	<hr/>
	\$1,223,772.02

1955-56

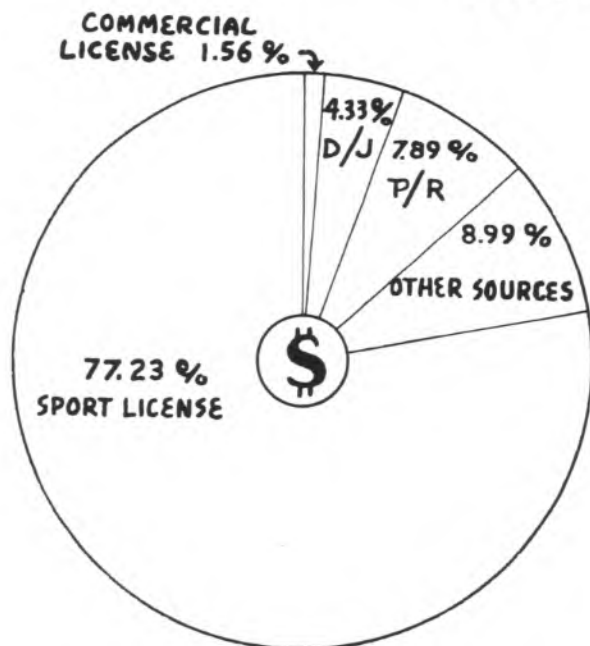
General Fixed Assets (Cost Valuation) as of June 30, 1956

Land and Buildings .....	489,302.83
Aircraft Equipment .....	34,138.79
Automotive Equipment .....	374,758.02
Marine Equipment .....	98,921.15
Motors .....	\$30,081.88
Boats .....	42,056.42
Trailers .....	26,782.85
Office Furniture and Equipment .....	44,186.59
Photographic Equipment .....	12,463.62
Radio Equipment .....	146,689.45
Field and Other Equipment .....	68,706.29
Livestock .....	145.00
	<hr/>
	\$1,269,311.74

Increase in General Fixed Assets in Fiscal Year  
1955-56 over 1954-55 of .....

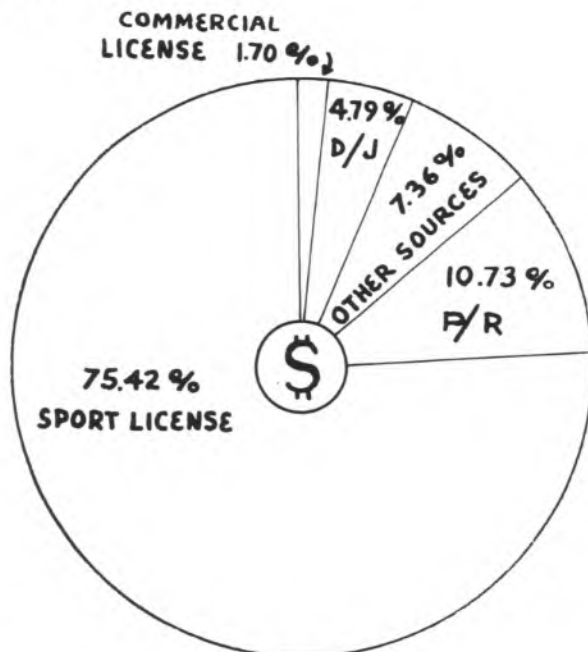
\$ 45,539.72

## TOTAL RECEIPTS



1955-56

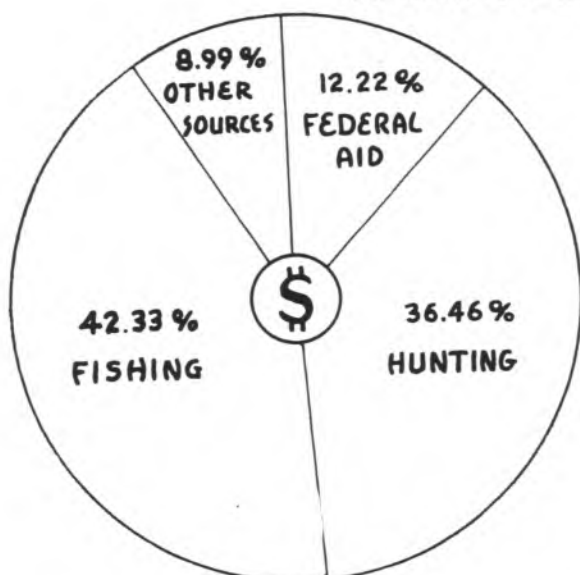
Sport License .....	\$1,460,752.00	77.23%
Commercial License .....	29,594.00	1.56%
D/J (Dingell-Johnson) .....	81,970.79	4.33%
P/R (Pittman-Robertson) .....	149,150.59	7.89%
Other Sources .....	169,996.64	8.99%
Total .....	<hr/>	
	\$1,891,464.02	100.00%



1954-55

Sport License .....	\$1,500,320.65	75.42%
Commercial License .....	33,701.90	1.70%
D/J (Dingell-Johnson) .....	95,240.50	4.79%
P/R (Pittman-Robertson) .....	213,527.58	10.73%
Other Sources .....	146,411.95	7.36%
Total .....	<hr/>	
	\$1,989,202.58	100.00%

## RECEIPTS BY CATEGORIES



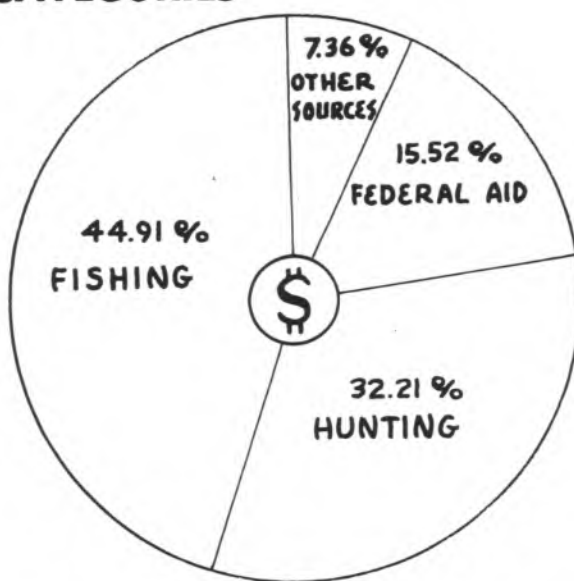
1955-56

Federal Aid .....	\$ 231,121.38	12.22%
*Fishing .....	800,640.25	42.33%
**Hunting .....	689,705.75	36.46%
Other Sources .....	169,996.64	8.99%

Total .....\$1,891,464.02 100.00%

\*Includes all Sport and Commercial Fishing License.

\*\*Includes Sport Hunting License, Permits and all types of License pertaining to Game Animals.



1954-55

Federal Aid .....	\$ 308,768.08	15.52%
*Fishing .....	893,306.40	44.91%
**Hunting .....	640,716.15	32.21%
Other Sources .....	146,411.95	7.36%

Total .....\$1,989,202.58 100.00%

\*Includes all Sport and Commercial License.

\*\*Includes Sport Hunting License, Permits and all types of License pertaining to Game Animals.

## TOTAL DISBURSEMENTS



1955-56

Administration .....	\$ 145,434.91	7.56%
Information & Education .....	193,906.42	10.08%
Fish Management .....	179,545.57	9.33%
Game Management .....	366,102.95	19.03%
Law Enforcement .....	1,038,820.60	54.00%

Total .....\$1,923,810.45 100.00%



1954-55

Administration .....	\$ 143,784.88	7.42%
Information & Education .....	169,794.87	8.76%
Fish Management .....	212,398.59	10.96%
Game Management .....	349,721.20	18.03%
Law Enforcement .....	1,062,997.05	54.83%

Total .....\$1,938,696.59 100.00%

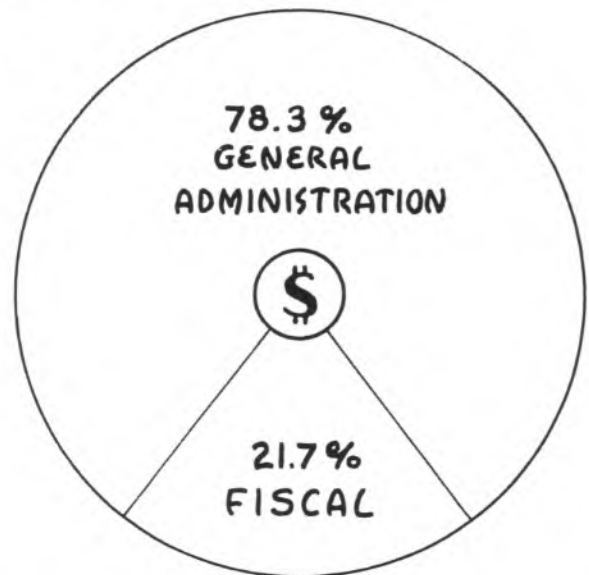
## EXPENDITURES BY DEPARTMENTS

### Administration



1955-56

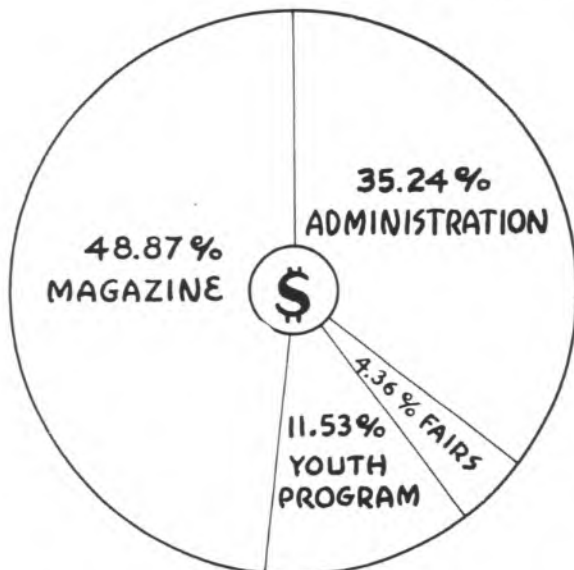
General Administration .....	\$111,465.75	76.64%
Fiscal .....	33,969.16	23.36%
Total .....	\$145,434.91	100.00%



1954-55

General Administration .....	\$112,588.38	78.30%
Fiscal .....	31,196.50	21.70%
Total .....	\$143,784.88	100.00%

### Information & Education



1955-56

Administration .....	\$ 68,340.70	35.24%
Magazine .....	94,753.22	48.87%
Fairs .....	8,460.02	4.36%
Youth Program .....	22,352.48	11.53%
Total .....	\$193,906.42	100.00%

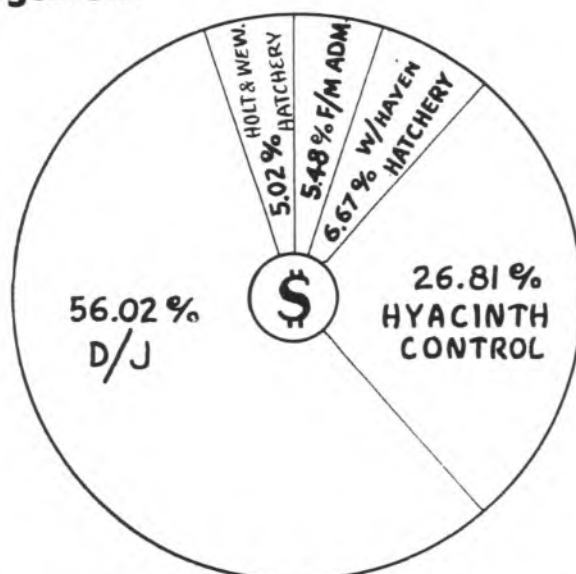
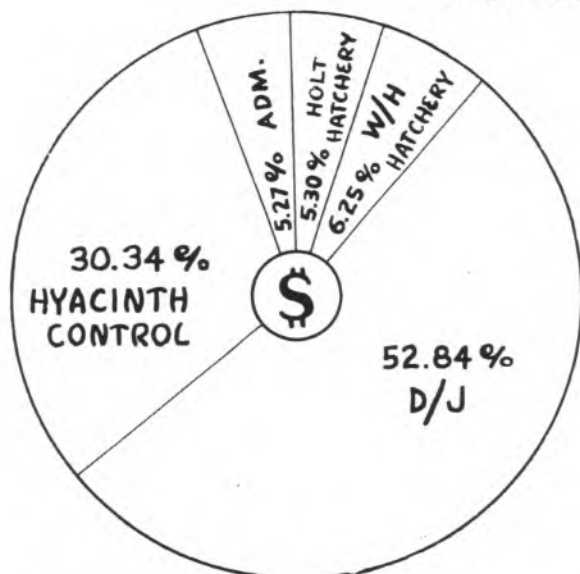


1954-55

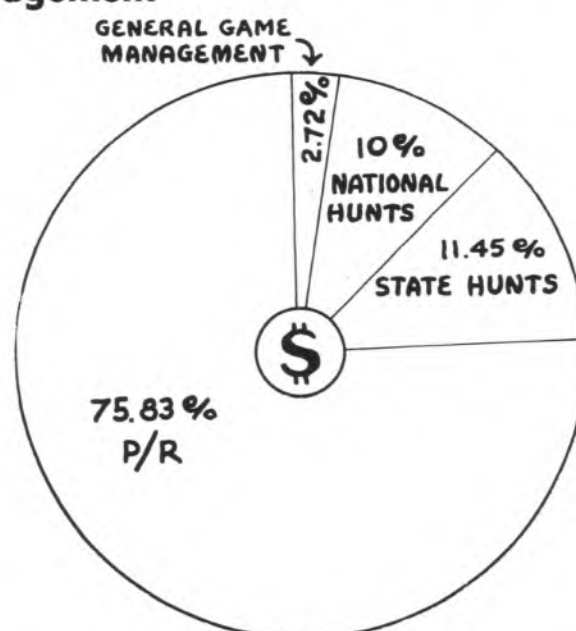
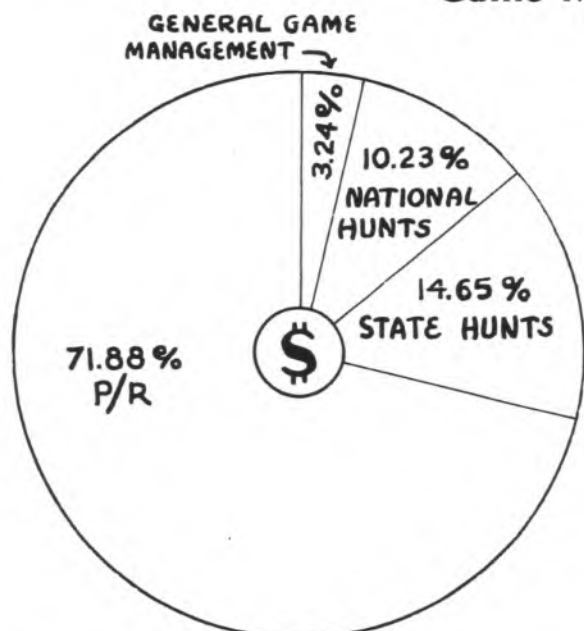
Administration .....	\$ 26,072.78	15.36%
Magazine .....	113,492.74	66.84%
Fairs .....	10,363.32	6.10%
Youth Program .....	19,866.03	11.70%
Total .....	\$169,794.87	100.00%



## EXPENDITURES BY DEPARTMENTS Fish Management

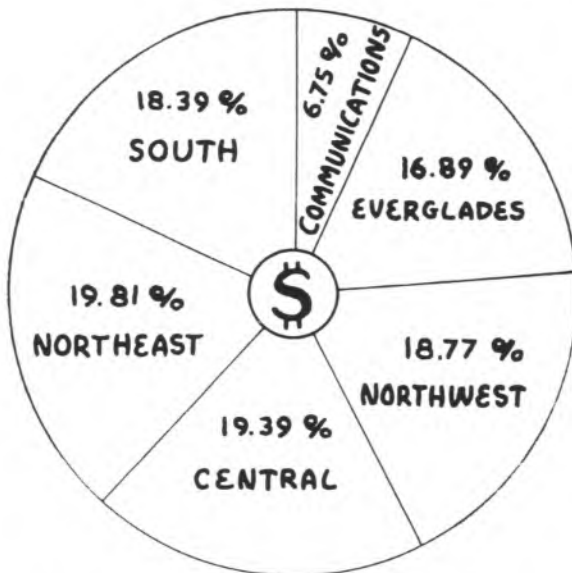


## Game Management



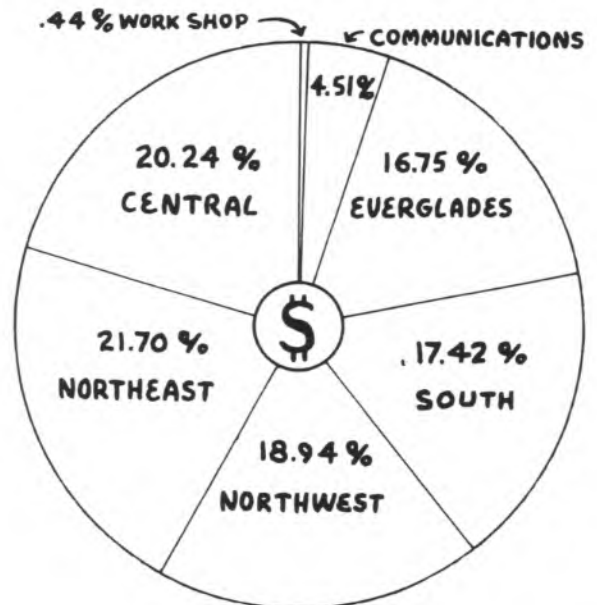
# EXPENDITURES BY DEPARTMENTS

## Law Enforcement



1955-56

South Region .....	\$ 191,029.27	18.39%
Northeast Region .....	205,735.32	19.81%
Northwest Region .....	195,035.55	18.77%
Everglades Region .....	175,404.05	16.89%
Central Region .....	201,446.87	19.39%
Communications .....	70,169.54	6.75%
<b>Total .....</b>	<b>\$1,038,820.60</b>	<b>100.00%</b>



1954-55

South Region .....	\$ 185,189.66	17.42%
Northeast Region .....	230,644.44	21.70%
Northwest Region .....	201,313.88	18.94%
Everglades Region .....	178,080.93	16.75%
Central Region .....	215,136.75	20.24%
Communications .....	47,978.99	4.51%
Work Shop .....	4,652.40	0.44%
<b>Total .....</b>	<b>\$1,062,997.05</b>	<b>100.00%</b>

**FLORIDA GAME AND FRESH WATER FISH COMMISSION**  
**Financial Statement — July 1, 1954 Thru December 31, 1956**  
**Statement of Cash Receipts, Disbursements and Balances**

	1954-1955		1955-1956		July 1, 1956 thru Dec. 31, 1956	
	Item Total	Source Total	Item Total	Source Total	Item Total	Source Total
<b>Receipts:</b>						
Beginning Cash Balance July 1, 1954		\$ 128,925.09		\$ 178,202.66		\$ 99,160.55
License Sold by County Judge	\$1,450,901.75		\$1,368,369.00		\$ 946,015.25	
License Sold by State Office	122,980.30		133,543.00		63,418.70	
Revenue from Other Governmental Agencies	337,251.53		254,986.78		115,035.83	
Revenue from use of Property	24,655.62		18,070.75		2,484.80	
Revenue from Publication of Magazine	31,695.46		24,562.20		12,975.55	
Sale of Fixed Assets	13,807.75		85,291.14		15,573.25	
Revenue from Other Sources	7,910.17		6,641.15		3,950.31	
Total Cash Receipts Schedule "A"		1,989,202.58		1,891,464.02		1,159,453.69
Cancelled & Restored Warrants		20.00		360.90		13.05
Adjustment Account				874.00		
County Judges Account		74.83		1,352.75		45.50
Special Building Fund						49,000.00
Total Revenue Available		2,118,222.50		2,072,254.33		1,307,672.79
<b>Disbursements:</b>						
Salaries	1,069,812.60		1,023,358.99		578,015.68	
Tel., Telegraph, Postage & Freight	35,169.75		31,360.98		16,084.45	
General Printing & Reproduction	127,592.18		112,028.38		65,709.86	
Repairs to Equipment	75,894.17		57,739.70		25,124.75	
Travel	93,971.02		91,964.00		46,114.42	
Other Contractual Services	58,293.58		41,804.93		23,438.61	
Materials & Supplies	64,228.72		79,477.37		40,945.40	
Motor Fuel & Lubricants	140,853.66		138,266.01		70,348.61	
Insurance & Surety Bonds	40,215.42		42,964.35		33,770.98	
Motor Vehicles	78,882.67		119,578.80		58,831.24	
Motors, Boats & Trailers	17,105.70		17,286.52		15,660.74	
Other Capital Outlay	55,328.88		80,141.88		21,621.99	
Transfer to Federal Government	17,218.72		18,742.50		21,939.75	
Other Expenses	64,129.52		69,096.04		39,860.72	
Total Disbursements Schedule "B"		1,938,696.59		1,923,810.45		1,057,467.20
Adjustment Account		1,323.25				222.89
Cancelled Warrants C & R Account						68.92
County Judges Account						
Total Disbursements		1,940,019.84		1,923,810.45		1,057,759.01
Ending Cash Balance		178,202.66		148,443.88		249,913.78
Less Special Building Fund				49,283.33		
Balance Forwarded				\$ 99,160.55		

SCHEDULE "A"	1954-1955		1955-1956		July 1, 1956 Thru Dec. 31, 1956	
	Item Total	Source Total	Item Total	Source Total	Item Total	Source Total
<b>SALE OF SPORTING LICENSES:</b>						
Fishing	861,794.50		772,956.25		427,923.00	
Hunting	547,965.75		581,725.75		470,823.00	
Trapping	1,312.00		2,121.00		330.00	
Alien Hunting	100.00		100.00			
U. S. Permits	400.00		550.00		600.00	
Charlotte County Permits	2,810.00		3,573.00			
Goose Permits	3,038.40		2,766.00		2,949.00	
State Hunting Permits	81,870.00		95,860.00		30,060.00	
Archery Permits	1,030.00		1,100.00		1,000.00	
Camp Blanding Permits					655.00	
Total Sporting License		\$1,500,320.65		\$1,460,752.00		\$ 934,340.00
<b>SALE OF COMMERCIAL LICENSES:</b>						
Retail Fish Dealer	11,785.00		11,255.00		9,995.00	
Non-Res. Retail Fish Dealer	100.00		100.00		100.00	
Wholesale Fish Dealer	2,850.00		2,100.00		2,200.00	
Non-Res. Wholesale Fish Dealer	2,000.00				500.00	
Commercial Boat	1,633.40		1,574.00		1,390.10	
Non-Res. Commercial Boat			20.00		20.10	
Boat for Hire	13,143.50		12,635.00		11,919.50	
Guide	410.00		310.00		430.00	
Game Farm	835.00		855.00		645.00	
Wholesale Fur Dealer & Agent	750.00		560.00		800.00	
Local Fur Dealer	100.00		90.00		70.00	
License to Exhibit Poisonous or Venomous Reptiles	95.00		95.00		85.00	
Total Commercial License		\$ 33,701.90		\$ 29,594.00		\$ 28,154.70

# SCHEDULE "A"—(Continued)

## OTHER SOURCES:

Court Costs Collected .....	28,483.45	\$ 23,865.40	\$ 10,551.93
Prev. Years License Collected .....	39,829.50	11,566.00	46,939.25
Miscellaneous Receipts .....	4,250.05	4,677.08	1,610.10
Pittman - Robertson .....	213,527.58	149,150.59	62,336.82
Dingell - Johnson .....	95,240.50	81,970.79	42,147.08
Sale of Magazine Subscriptions .....	26,260.34	23,307.50	12,576.77
Sale of Magazine Advertising .....	4,706.47	213.25	5.00
Sale of Magazine Single Copies .....	728.65	1,041.45	393.78
Sale of Old Equipment .....	11,847.75	26,007.81	15,573.25
Sale of Confiscated Material and Equipment .....	468.15	1,239.65	422.60
Sale of Livestock .....	75.00		
Sale of Rough Fish .....	149.56		1,692.02
Sale of Timber .....	3,042.41	724.42	225.59
Sale of Land & Buildings .....	1,885.00	59,283.33	
Prev. Years Hunt Permits Collected .....	25.00		
Prev. Years Com. License Collected .....	5.00		
Charlotte County Grazing Lease .....	10,503.54	9,288.51	44.80
Charlotte County Oil & Gas Lease .....		5,026.40	
Corbett Area Oil Lease .....	14,152.08	3,755.84	2,440.00
Total Other Sources .....	\$ 455,180.03	\$ 401,118.02	\$ 196,958.99
Total Receipts .....	\$1,989,202.58	\$1,891,464.02	\$1,159,453.69

SCHEDULE "B"	1954-1955		1955-1956		July 1, 1956 thru Dec. 31, 1956	
	Item Total	Source Total	Item Total	Source Total	Total Item	Source Total

## Disbursements:

Salaries .....	\$1,069,812.60	\$1,023,358.99	\$ 578,015.68
Professional Fees & Consultant Services .....	2,523.00	2,147.60	993.21
Advertising Florida Resources .....	20.00	1,352.03	2,285.19
Telephone & Telegraph .....	20,480.07	16,789.19	9,510.53
Postage, Freight & Express .....	14,689.68	14,571.79	6,573.92
General Printing & Reproduction .....	127,592.18	112,028.38	65,709.86
Repairs & Maintenance .....	75,894.17	57,739.70	25,124.75
Travel .....	91,228.10	89,592.01	43,652.72
Travel—Other than Employees .....	2,742.92	2,371.99	2,461.70
Other Contractual Services .....	58,293.58	41,804.93	23,438.61
Beddings, Clothing & Textile Products .....	2,475.21	230.67	9.30
Building — Construction Material and Supplies .....	6,792.14	4,018.07	796.47
Coal, Fuel Oil, Heating Supplies .....	486.11	661.25	238.00
Ed., Med. Scient. & Agri. Supplies .....	31,600.14	36,331.58	19,683.17
Food Products .....	5,229.02	1,314.87	115.16
Maintenance Mat. & Supplies .....	43,311.26	54,822.34	21,333.40
Motor Fuel & Lubricants .....	140,853.66	138,266.01	70,348.61
Office Material & Supplies .....	7,061.38	7,243.19	5,400.07
Other Materials & Supplies .....	13,856.08	17,411.84	14,211.93
Insurance & Surety Bonds .....	40,215.42	42,964.35	33,770.98
Pensions & Benefits .....	600.00	600.00	250.00
Rental of Buildings & Equipment .....	9,798.34	17,376.80	10,230.43
Other Current Charges & Obligations .....	1,423.24	1,701.30	515.51
Books .....	33.94		
Building & Fixed Equipment .....	11,279.76	19,916.52	1,551.74
Ed., Med., Scient., & Agricultural Equipment .....	24,032.22	3,374.16	3,021.76
Motor Vehicles .....	78,882.67	119,578.80	58,831.24
Motors, Boats & Trailers .....	17,105.70	17,286.52	15,660.74
Other Motor Vehicles .....	504.00	6,080.00	
Office Furniture & Equipment .....	5,250.40	6,220.14	3,483.01
Land & Interest in Land .....		2,690.00	
Other Structures & Improvements .....	460.40	485.50	161.70
Other Capital Outlay .....	14,228.56	41,861.06	13,565.48
Distribution & Transfer .....	17,218.72	18,742.50	21,939.75
Revolving Fund .....		20.13	2,979.87
	\$1,938,696.59	\$1,923,810.45	\$1,057,467.20



SCHEDULE "B"—Disbursements by Department	1954-1955		1955-1956		July 1, 1956 thru Dec. 31, 1956	
	Budget Total	Department Total	Budget Total	Department Total	Budget Total	Department Total
<b>ADMINISTRATION</b>						
Salaries .....	\$ 36,801.46		\$ 37,261.07		\$ 17,763.48	
General Expense .....	74,763.64		70,731.77		53,991.58	
Capital Outlay .....	1,023.28	\$112,588.38	3,472.91	\$111,465.75	1,249.18	\$ 73,004.24
<b>FISCAL BRANCH</b>						
Salaries .....	28,444.80		29,319.67		14,199.75	
General Expense .....	2,751.70		2,408.26		373.54	
Capital Outlay .....		31,196.50	2,241.23	33,969.16	1,413.00	15,986.29
<b>COMMUNICATIONS</b>						
Salaries .....	19,970.52		25,280.33		17,272.00	
General Expense .....	16,945.34		21,855.42		11,526.47	
Capital Outlay .....	11,063.13	47,978.99	23,033.79	70,169.54	8,690.66	37,489.13
<b>INFORMATION AND EDUCATION</b>						
Salaries .....	8,649.22		32,265.35		19,078.89	
General Expense .....	16,158.12		29,163.81		17,795.73	
Capital Outlay .....	1,265.44	26,072.78	6,911.54	68,340.70	4,121.31	40,995.93
<b>FAIR EXHIBITS</b>						
Salaries .....	2,575.00		3,602.50		1,131.74	
General Expense .....	6,783.21		4,857.52		1,431.27	
Capital Outlay .....	1,005.11	10,363.32		8,460.02	1,885.24	4,448.25
<b>YOUTH PROGRAM</b>						
Salaries .....	5,200.00		6,047.00		3,253.00	
General Expense .....	5,631.38		3,643.92		1,136.63	
Capital Outlay .....	9,034.65	19,866.03	12,661.56	22,352.48		4,389.63
<b>MAGAZINE</b>						
Salaries .....	18,242.01		20,178.62		9,374.48	
General Expense .....	95,095.54		74,315.79		37,135.77	
Capital Outlay .....	155.19	113,492.74	258.81	94,753.22		46,510.25
<b>PITTMAN-ROBERTSON</b>						
Salaries .....	116,652.43		121,736.58		75,881.31	
General Expense .....	108,621.31		102,344.38		53,482.81	
Capital Outlay .....	39,936.78	265,210.52	39,069.37	263,150.33	20,081.87	149,445.99
<b>DINGELL-JOHNSON</b>						
Salaries .....	72,574.16		53,850.08		30,465.16	
General Expense .....	33,263.38		32,801.50		26,574.96	
Capital Outlay .....	13,139.85	118,977.39	8,229.20	94,880.78	1,080.30	58,120.42
<b>GENERAL GAME MANAGEMENT</b>						
Salaries .....	3,568.50		4,422.50		300.00	
General Expense .....	5,922.81		7,441.77		4,345.98	
Capital Outlay .....		9,491.31		11,864.27	515.00	5,160.98
<b>STATE HUNTS</b>						
Salaries .....	32,579.62		38,624.38		45,618.38	
General Expense .....	7,055.92		10,998.51		6,971.17	
Capital Outlay .....	400.79	40,036.33	4,021.59	53,644.48	1,290.29	53,879.84
<b>NATIONAL FOREST HUNTS</b>						
Salaries .....	10,044.26		9,546.24		11,192.45	
General Expense .....	24,938.78		27,897.63		22,876.91	
Capital Outlay .....		34,983.04		37,443.87	125.00	34,194.36
<b>FISH MANAGEMENT ADMINISTRATION</b>						
Salaries .....	8,076.00		5,785.31		2,551.29	
General Expense .....	3,573.88		3,060.63		3,855.82	
Capital Outlay .....		11,649.88	607.56	9,453.50		6,407.11
<b>HYACINTH CONTROL</b>						
Salaries .....	29,946.39		24,961.26		10,296.15	
General Expense .....	26,524.79		29,059.70		5,964.72	
Capital Outlay .....	466.27	56,937.45	460.00	54,480.96	7,685.00	23,945.87

SCHEDULE "B"—Disbursements by Department	1954-1955		1955-1956		July 1, 1956 thru Dec. 31, 1956	
	Budget Total	Department Total	Budget Total	Department Total	Budget Total	Department Total
WINTER HAVEN HATCHERY						
Salaries .....	9,613.20		7,693.98		3,916.20	
General Expense .....	3,409.40		3,282.59		1,580.03	
Capital Outlay .....	1,139.18	14,161.78	243.77	11,220.34		5,496.23
WEWAHITCHKA AND HOLT HATCHERY						
Salaries .....	5,485.22		6,386.24		3,432.80	
General Expense .....	3,749.33		3,282.59		1,580.03	
Capital Outlay .....	1,437.54	10,672.09	243.77	11,220.34		5,496.23
AVIATION						
Salaries .....					12,348.00	
General Expense .....					12,220.06	
Capital Outlay .....					59.35	24,627.41
SOUTH FLORIDA REGION						
Salaries .....	123,865.02		115,842.65		60,320.17	
General Expense .....	53,486.77		45,137.88		20,532.79	
Capital Outlay .....	7,837.87	185,189.66	30,048.74	191,029.27	6,823.17	87,676.13
NORTHEAST FLORIDA REGION						
Salaries .....	150,763.48		133,124.36		67,356.67	
General Expense .....	67,301.77		52,227.10		23,777.98	
Capital Outlay .....	12,579.19	230,644.44	20,383.86	205,735.32	10,147.42	101,282.07
NORTHWEST FLORIDA REGION						
Salaries .....	137,799.95		128,772.68		66,562.45	
General Expense .....	46,818.39		43,164.20		21,138.34	
Capital Outlay .....	16,695.54	201,313.88	23,098.67	195,035.55	7,343.14	95,043.93
EVERGLADES REGION						
Salaries .....	101,118.68		90,760.62		42,528.34	
General Expense .....	62,264.56		66,184.53		30,591.69	
Capital Outlay .....	14,697.69	178,080.93	18,458.90	175,404.05	13,945.01	87,065.04
CENTRAL FLORIDA REGION						
Salaries .....	143,874.38		127,897.57		63,172.97	
General Expense .....	52,676.45		49,290.60		24,444.40	
Capital Outlay .....	18,585.92	215,136.75	24,258.70	201,446.87	9,389.48	97,006.85
WORK SHOP						
Salaries .....	3,968.30					
General Expense .....	684.10	4,652.40				
Capital Outlay .....						
		<u>1,938,696.59</u>		<u>1,923,810.45</u>		<u>1,057,467.20</u>



Motion Picture Photography

# Information and Education

ROBERT A. DAHNE—Chief

**T**HE DIRECTIVE to weld together an efficient Information and Education program has keynoted all work carried forward during the period covered by this biennial report.

Every effort was made to create a full-fledged information and education program that would operate efficiently on all levels—local, state and national—and in all phases of activities.

Clarification of the duties of the Information and Education Division as a whole was the first achievement. Delegation of authority and responsibility to the various sections and employees was then carried out.

Next was the establishment of a system of reports which, for the first time, allowed the individual employees and sections, as well as the entire Division, to keep accurate records of the work carried out and the resulting successes. This was accomplished through establishment of a series of weekly, quarterly and annual record charts and reports. The report system has resulted in streamlining operations and more effective information and education programs.

Other major work phases of the biennium included completion of the initial building program at the Youth

Conservation Camp at Lake Eaton, inauguration of the Audio-Visual Section of the I&E Division, and establishment of an in-service training conference procedure for Division employees.

## DIVISION OPERATIONS

Operational procedures and policies of the Information and Education Division are outlined as follows:

By its nature, the Information and Education program carried on by the Florida Game and Fresh Water Fish Commission is both intricate and widely diversified.

In all, the Information and Education Division is responsible for carrying on a total of 15 major inter-related programs that fall roughly into the five general classifications of Information, Education, Publicity, Public Relations and Internal Employee Training.

The 15 major programs that are carried on simultaneously are: Publications, Films and Film Libraries, News Releases, Fair Exhibits, Radio, Television, Newspapers, Photography, Public School Resource-Use Education, Lectures, Information Requests, Special Promotions, Organizations and Conventions, Junior Conservation Clubs and League, Employee Training Schools and Morale.

Each of these 15 major programs contains, of course, many minor and varied programs and projects.

In general, the Information and Education work is carried on two main levels: Out-of-State Information and Education, and Intra-State Information and Education. Of the two, the Intra-State work has always been considered the most important phase of the Commission's I&E work.

The Out-of-State I&E program is carried on primarily through the office in Tallahassee. In its essence, the theme of any programs designed for out-of-state dissemination is to publicize the great potentialities of fishing and hunting in Florida. Much of this work is involuntary in that it is done at specific request from persons, concerns and states outside of Florida.

The Out-of-State work continues to be necessary and desirable just so long as the national interest in Florida's fishing and hunting continues to grow so rapidly as the result of invaluable publicity received in countless national magazines, newspapers, books, television programs and motion pictures. The out-of-



Lectures and Television Appearances



Educational Film Preparation

state work undoubtedly results in the arrival of many hundreds of out-of-state visitors and many prospective permanent residents.

The Intra-State work of the Information and Education Division is considered to be of most vital interest to the Florida Game and Fresh Water Fish Commission. This is because the primary duty and responsibility of the Game Commission is to the Florida citizens who purchase licenses to fish and hunt within the state.

It is the duty of the Information and Education Division to inform and educate the sportsmen and citizens of Florida to the desirability of proper wildlife conservation in all its facets. The I&E Division is primarily charged with the responsibility of informing and educating the general public as to the policies, the work programs, the game and fish laws and the management practices which are being set into motion by the Commission.

The I&E Division is not, and has never been considered to be, a propaganda machine. Nor is it the "brain" of the Commission. It serves, instead, as the "tongue" of the Commission, giving voice, in all possible ways, to the official policies and practices of the Commission. In order to do its job, the I&E Division is concerned only with the true facts concerning Florida wildlife and its proper conservation.

The quickest way to destroy the efficiency and power of the I&E Division would be through any attempt at distortion or partial concealment of the truth. The Division must always deal in whole and exact truths, or its efficacy will be totally lost. Nor is it the duty or the intent of the Information and Education Division to in any way infringe upon or com-

pete with established private staff or free-lance writers, editors and programmers for newspapers, magazines, books and radio and television stations. Instead, it is the duty of the I&E Division to cooperate with and assist in every possible way all such writers and editors.

In order to effect an efficient 15-point program on a state-wide basis, the Staff Officer known as the Chief of Information and Education has the assistance, cooperation and advice of five Regional Information and Education Officers. These Officers, located in each Region headquarters office of the Commission, are completely responsible for the proper conduct of complete information and education programs in the areas encompassed by the respective Regions.

Under the Regional administrative set-up, all state-wide informational or educational programs are organized and set into motion by the Tallahassee office. The programs are then carried out on a Regional, or local, basis by the Regional Officers.

Thus, when an official policy or operation is adopted by the Commission or its Director, the informational and educational aspects are organized and coordinated by the Tallahassee office through the Regional offices.

The Chief of I&E also has complete responsibility for all actions and programs carried on by the Supervisor of Youth Education, and the Chief of Audio-Visual.

## ANNUAL REPORTS

The new activity report system for the Division was first established for the calendar year of 1956. Abstracted

from these reports are the following figures of general interest:

During the twelve-month period, the five Regional Education Officers performed a total of 1,672½ hours of cooperative work—other than normal I&E work—with other Divisions and Sections of the Commission. They also released 5,938 copies of regional news releases, presented formal talks before 16,435 persons, showed films or slides to a total of 11,120 persons, installed fair exhibits viewed by an estimated 453,381 persons, answered 5,780 mail requests for information, and distributed 83,602 pieces of Game Commission literature.

The five Education Officers also attended 427 meetings during the year, loaned a total of 280 films from the regional film libraries, made a total of 100 appearances on radio and television programs, spent 276½ hours working with youth clubs, and spent a total of 110 working days on special promotions.

During the same twelve-month period, the Tallahassee I&E office secretary mailed to out-of-state addresses a total of 29,622 individual pieces of literature in answer to specific mail requests for information about Florida fishing and hunting, and also mailed 1,885 sample copies of FLORIDA WILDLIFE magazine to interested persons.

It is also of interest to note that the Audio-Visual Section produced a total of ten television news films of Commission programs, and copies were distributed to the 20 television stations in Florida. The films were telecast to the viewing audiences at an average cost to the Commission of

## Youth Education and Fair Exhibits







Visual Aids and Color Slides

about one cent per 50 television sets, with a potential audience of 250 persons for each penny spent.

The Audio - Visual Section also processed a total of 1,675 photographic negatives during a seven-month period.

Details of various operations of the Division follow:

#### PUBLICATIONS

The I&E Division office at Tallahassee has the duty of preparing, processing, editing and publishing the majority of pamphlets, booklets and brochures which the Commission distributes as an aid to properly informing and educating interested persons as to wildlife and the conservation thereof. A total of seven new publications were originated during the biennial period, and others were revised and brought up-to-date. The major portion of these copies were distributed through the I&E Division channels.

#### FILMS AND FILM LIBRARIES

In addition to the television news films previously mentioned, the I&E Audio-Visual Section produced one twenty-minute feature color-sound film concerning Florida fresh-water fishing, and one short subject concerning the Commission's Youth Conservation Camp. The Commission, at present, has 49 copies of feature-length conservation films in its five regional film libraries. These films were acquired at low cost or no cost over a period of years. Only a portion of the film copies are in good condition, the remainder being in fair or worn-out condition from numerous showings. These films are

presently shown only within the State of Florida, none being loaned for out-of-state usage. Because of the shortage of funds and films, the practice of loaning Commission films to persons or groups located outside of Florida was temporarily discontinued during the biennium.

#### NEWS RELEASES

Statewide news releases are processed and distributed by the Tallahassee office. Region-wide news releases are processed and distributed by the Regional Education Office. News releases are one of the most important programs carried on by

the I&E Division, for it is only through this medium that most newspapers, radio stations, television stations, editors, outdoor writers and interested sportsmen obtain authoritative information concerning current Commission policies, programs, activities, and rules and regulations. News releases are not distributed on any set, regulated basis—to do so would result in the forced, or "canned" type of release. Instead, news releases are prepared only when the Commission is involved in a newsworthy occurrence, or when a point of public information needs clarification, such as hunting rules and regulations. During the twelve-month period January 1, 1956, through December 31, 1956, the Tallahassee I&E office prepared and distributed a total of 107 statewide news releases—each release being mailed to approximately 800 addresses. During the same twelve-month period, the five Regional Education offices prepared and distributed a total of 100 region-wide news releases.

#### AUDIO-VISUAL

The Audio-Visual Section of the I&E Division was created August 1, 1955, with one employee, the Section Chief. Audio-Visual was created to handle still and motion photography, film and color-slide loan-libraries, television news films, magazine artwork, darkroom laboratory film processing, and related educational and informational activities. In the first 17 months, Audio-Visual produced one 20-minute color-sound feature film on Florida fishing and the new three-day \$1.25 non-resident



Operation of Youth Conservation Camp

fishing license, and a total of ten television news films ranging from one to five minutes in length. Each TV film was used at least once by an average of seven to ten Florida television stations. One short-subject color-sound film on the Youth Camp was also produced during the period. In addition, Audio-Visual produced a set of educational public-safety 35-mm. slides for television use, and an extensive amount of artwork for the Commission - published **FLORIDA WILDLIFE** magazine. Audio-Visual also compiled color slides for the loan library service, and produced still photography when needed. On June 3, 1956, a darkroom laboratory technician was employed to process 1,675 still negatives in a seven-month period, as well as handle the color-slide photography and library. Detailed reports of Audio-Visual activities are available to interested persons.

#### YOUTH EDUCATION

During the biennium, a large amount of effort was expended in re-organizing and re-defining the Youth Education program and responsibilities. Details are to be found in the Youth Education section of this biennial report.

#### FAIR EXHIBITS

The Mobile Wildlife Trailer Exhibit, featuring wild animals, birds and reptiles, was discontinued during the biennium. Close study of operational reports and public reactions

revealed that the trailer was no longer a profitable operation since the majority of the interested people in the state had seen the trailer at least once, if not numerous times. Discontinuance of the expensive mobile-type exhibit resulted in a savings of monies for the Division. During the biennium, many local fair exhibits were scheduled, constructed and exhibited through the initiative and resources of the respective Regional Officers.

#### RADIO

Radio activities were confined to personal appearances by Regional Education Officers and personnel on local radio stations and tape-recorded programs.

#### TELEVISION

In addition to the Audio-Visual Television work, Regional Education Officers and personnel made personal appearances on numerous television programs. During a twelve-month period, the five Regional Education Officers made a total of 100 appearances on radio and television programs.

#### NEWSPAPERS

Maintaining good relations with newspaper writers and editors throughout the state is always a continuing program of the I & E Division, with the efforts carried on by Regional Education Officers.

#### LECTURES

All I & E Officers, as well as other employees of the Commission, are continuously available for public appearances and addresses before numerous public gatherings and organizations throughout the state.

#### OTHER ACTIVITIES

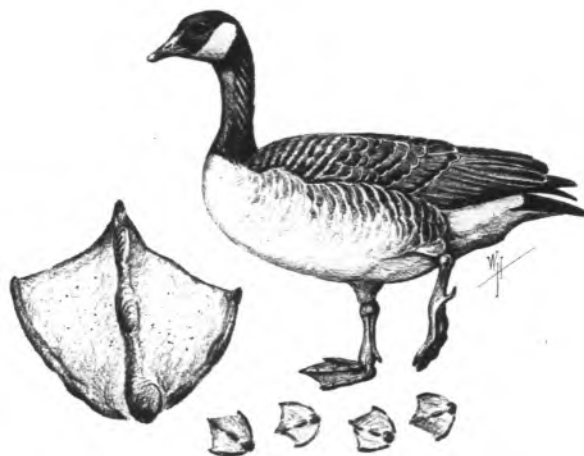
Work done in handling information requests, special promotions, organizations and conventions, and public school resource-use education are covered in other sections of this Biennial Report.

#### SUMMARY

In general, the Information and Education section is charged with the responsibility of informing and educating the public to proper conservation methods and practices. It is vitally concerned with publicizing the activities and policies of the Florida Game and Fresh Water Fish Commission. It is always interested in maintaining good relations between the sportsmen and the Commission. It is, of course, interested in employee training and morale. It must, at all times, work in cooperation with all branches of the Commission in all fields, and it must attain continuous and complete contact with all Commission employees and programs. Essentially, the Information and Education Division is a service department—offering its service to all persons connected with the Commission, and to all sportsmen and citizens of Florida and the United States. ●



QUAIL



CANADA GOOSE

# FLORIDA WILDLIFE

BILL HANSEN

— Editor —



**T**HE MONTHLY PUBLICATION OF FLORIDA WILDLIFE is an important medium employed by the Game and Fresh Water Fish Commission for the effective disbursing of information and educational material so important to the eventual success of present and future Commission programs.

A total of 39 major state Game and Fish Commissions now make use of periodic publications as a proven public information service. These publications range from weekly bulletins to the slick monthly magazine type format. FLORIDA WILDLIFE has recently obtained high national recognition in the latter category.

A balanced contents of factual, technical and general type articles are presented each month. Subjects covered in each issue include Commission programs, fresh water fishing, hunting, conservation and natural history in general.

FLORIDA WILDLIFE is dedicated to the conservation, preservation and propagation of Florida's fresh water fish, game and related natural resources. The purpose of this magazine is to acquaint and educate the public with the many problems connected with the immense task of conserving a natural heritage for all future generations, and to report on the progress being made by the Commission in meeting the challenge. It also seeks to develop a general understanding and cooperative public relations between state officials and technicians and the people of Florida.

The Commission now prints 20,000 copies of each monthly issue. Approximately 18,500 are mailed each month to a regular mailing list consisting of paid subscribers, Commission employees, state officials and members of other state and Federal conservation agencies. The remaining 1,500 are distributed free of charge through various fairs and ex-

hibits, Chambers of Commerce, and through official state promotional distribution agencies.

A portion of the cost of publishing FLORIDA WILDLIFE is paid for from the paid subscriptions which now go to all 48 states and several foreign countries. The remaining cost is absorbed by the Commission as an important public information service with value received immeasurable as to dollars and cents value.

It should be remembered that, although this portion of the over-all budget earmarked for FLORIDA WILDLIFE is expended mostly on the monthly publication, the personnel of this department spend considerable time assisting in functions directly connected with other Commission departments.

Duties assigned to the small magazine staff of four include: editorial preparation, article writing and re-writing, photography, publication layout and makeup mechanics, field

work, information disbursing, book-keeping, special addressograph and mailing procedure, related clerical duties and other required Commission activities.

Under the present organization and Commission policy, FLORIDA WILDLIFE has, for the past biennium, shown a continuous increase in paid circulation and improved format quality. During the same period, through an efficient systematic organization, the general over-all publishing cost has been steadily decreasing.

Research in the magazine publishing field shows that approximately 2½ individuals read each distributed copy of this type monthly periodical. Based on the aforementioned figures, the Game and Fresh Water Fish Commission's monthly magazine, FLORIDA WILDLIFE, delivers a message of definite importance to approximately 600,000 readers annually. ●





All pilots assist licensed aircraft and engine mechanic in routine inspections, aircraft checks and repairs.

**T**he Aviation Section is the newest element to be added to the ranks of the Game and Fresh Water Fish Commission.

To understand the reason for its growth, it is necessary to re-trace our steps back to the time when the first aircraft was purchased by the Commission. This was nearly 10 years ago. The advantage of aircraft in furthering the law enforcement program and as a communications aid was soon realized, and in the succeeding years additional aircraft were purchased until each of the five regional headquarters was assigned a full time Wildlife Officer Pilot and ship. The last regional aircraft purchased was the ship for the Central Region, and it was acquired in the fall of 1954.

Recently, for reasons of economy, efficiency and safety, the Commission approved a proposal to combine all Game Commission aircraft into an individual department recognized as the Aviation Section. A separate budget was appropriated for the operation.

Headquarters for the Aviation Section were originally located at the Old Montbrook Air Base at Williston, Florida. In December of 1955, when the Central Region offices were moved to Ocala, the Aviation Section moved at the same time to the Ocala Municipal Airport. Space was made available in one of the hangars, and includes a complete aircraft and engine shop to facilitate all routine inspections, plus minor and major repairs to Commission aircraft required by the Civil Aeronautics Administration. It might be

# A VIATION

WILLIAM S. DURKEE

— Chief —

added here that the aviation division personnel also maintain all aircraft engines used in the airboats required in the Hyacinth Control Section. All radios installed in aircraft are also installed at Ocala.

Section personnel includes the Chief of Aviation, a pilot for each of the five regions, two pilots for Hyacinth Control, an aircraft and engine mechanic, and a part-time secretary.

The aircraft consist of Four Piper PA-18's, two Cessna 170's and one Cessna, model 180. One PA-18 and the Cessna 180 are equipped with spraying apparatus for the eradication of hyacinths. Another PA-18 is equipped with amphibious floats for water work.

The primary function of the Aviation Section is to give close, coordinated air support to ground personnel for obtaining maximum results in law enforcement work. Totals taken from pilots' activity reports for a five-month period show that they

spent 1,546 hours in the air, including patrol (day and night), spray time, personnel transportation, photo flights, surveys, and assisting State and Federal agencies. In addition to this, they spent 1,132 hours on ground patrol, 52 hours for public appearances and information and education work, assisted with 31 arrests, and spent another 1,050 hours generally assisting personnel of their various regions.

During a 24-hour period, a pilot may be requested to assist in many various tasks, day or night, such as patrol, flying over our many lakes and streams, management areas, the famed Everglades swamps and marshes and public properties for the purpose of locating illegal means of taking game or fish.

To give an example of the coordination between the Aviation Section and law enforcement personnel: several months ago, a plan was developed by the Central Florida Region personnel and Aviation Sec-

Complete aircraft and engine shop with all facilities for inspections and repairs is maintained at Ocala, thereby lowering maintenance costs.





tion personnel. This plan was an attempt to make a large number of "monkey fishing" arrests on Lake George, where this type of illegal fishing is one of the great problems of law enforcement.

Wildlife Officers equipped for water patrol work plus U.S. Fish and Wildlife Service officers met late one evening at a place where they believed they would not be detected and spent the night. The amphibious plane flew in late that same afternoon, and landed on a small lake in the Ocala National Forest.

On the morning of the operation, the Central region aircraft, carrying the information and education officer as an observer and cameraman, left the Ocala Airport. Shortly before this, the seaplane had left its base carrying a wildlife officer, and started on a general patrol of the lake, looking for "monkey fishermen". These were soon spotted, and that fact given to the other airplane and officers by radio. The Central region aircraft immediately flew over the fishermen taking pictures of the operation. This continued for a time until the "monkey fishermen" decided they might be better off in some other place. By the time they had made this decision, however, the crew of officers in boats, having been directed to the area by radio had nearly closed in on them. They managed to elude the officers and started for open water. In a short time, the officers, with the aid of the aircraft, had rounded up the fishermen, boats, motors and fishing devices. Six men were arrested and over \$4,000 worth of equipment was confiscated.

Another example of the cooperation between pilots and ground personnel took place in the Everglades Region and received national publicity. An attempt was being made to stock the Big Cypress management area with turkeys trapped in other areas. It was found that the long trip by truck into this remote area often left the turkeys in a weakened condition and prey to animals and diseases. It was suggested that it might be possible to release them into the area by use of an airplane. It was tried with one turkey being released from the airplane at an altitude of about 200 feet. The turkey glided down to earth and came to roost in a tall pine tree. Since that time, several dozen turkeys have been released from aircraft into that management area.

There is seldom a week goes by that the Commission pilots do not assist some other state agency with its work. About two years ago,

Commission pilots moved in a group to Perry, Florida, to help the Florida Forest Service combat disastrous fires which were sweeping the woods area of Dixie and Taylor Counties. The pilots flew night and day observing new outbreaks and directing fire fighters with the aid of walkie-talkie radios.

Commission pilots very frequently also aid the Highway Patrol and Sheriffs' departments in looking for lost persons, missing aircraft, escaped prisoners or illegal stills.

A great many hours are flown at night in an attempt to make it very difficult for the illegal hunter, who must use a light to locate and shoot game, to leave the area without being detected. Aerial communications also play an important part here, making it possible to direct ground personnel to intercept and apprehend the violator.

General survey and aerial photo work are commonplace, and in the fall the "duck count" is begun. All duck habitat in the entire State of Florida is flown over for the purpose of classifying species and approximate numbers.

The float-equipped aircraft is based in the central part of Florida, amidst our many fresh water lakes suitable for this type of aircraft operation.

Two of the aircraft, a PA-18 and a Cessna 180 previously mentioned in this article, have the never ceasing problem of hyacinth eradication which plagues our many fresh water



Air safety is an important factor in all Commission Aviation work.

lakes and streams. To enable a proper and effective kill, the pilot must fly directly over the plants at an altitude of between five and fifteen feet, which requires a great deal of skill and concentration.

Because of the many and varied tasks which an aircraft must perform, positive and thorough main-

Aircraft is an immense aid in law enforcement patrol work.





Leased helicopter proved extremely effective in aerial spraying of hyacinths in certain areas not accessible by ordinary means.



One seaplane is based at Lakeland, permitting extensive inland water patrol.

tenance is a must for all Commission aircraft. Each plane must be carefully and thoroughly inspected after 100 hours of flight. Because the maintenance shop carries on a program of "progressive maintenance" for the aircraft, at this time minor repairs are given to each plane. This may be in the form of new sparkplugs, oil changes, new tires and tubes, worn bolts, nuts or rivets, and replacement of worn cables. At the end of a 600 to 900 hour period of flight, what is known as a "major overhaul" takes place. At this time, the engine is completely torn down, and worn parts replaced wherever necessary. Necessary fuselage repairs also take place at this time, such as new fabric or paint. Once a year, the airplane is carefully checked and licensed by

an authorized representative of the Civil Aeronautics Administration.

The maintenance personnel have spent 1,656 hours working on the section aircraft. They have completed 15 100-hour inspections, seven annual inspections, four major engine overhauls and six top overhauls. Also during this time, they have made eight installations of engines in Hyacinth Control airboats.

In order to become a pilot with the Game Commission, a person must have a commercial pilot's license and a minimum of 1,000 flying hours, and, in addition to this, he must pass rigid tests given by the Chief Pilot. This is done to ascertain the pilot's capabilities in controlling his aircraft at altitudes and speeds not familiar to the average commercial pilot during routine fly-

ing. He must also have a complete understanding of aircraft mechanics, communications, weather and orientation.

Besides this, he must be thoroughly familiar with all the duties of a Wildlife Officer. Not only must the Game and Fresh Water Fish Commission pilots be very competent in performing their duties with the aircraft, but they must also be sincerely interested in conservation and wildlife.

The Aviation Section, while only a newcomer in the Game and Fresh Water Fish Commission of the State of Florida, is sincere in the hope that it will continue to progress and maintain its part in helping the overall law enforcement program, as well as all other Commission programs and activities. ●

Close radio contact is always maintained by law enforcement officers on land, water and in the air

Besides patrol and spray work, Commission pilots fly many hours of search, rescue and survey missions as a public service.





# Radio Communications

RHETT McMILLIAN  
— Chief —

**T**HE Communications Section was set up late in the year of 1948 to serve primarily as an aid to the Law Enforcement program. Beyond its primary purpose of serving as a tool for officers in the field, the radio system has since proved itself to be a valuable adjunct to the Commission's continuous efforts in achieving greater efficiency with a consequent saving in both time and money.

Now, the Communications Section not only serves as a law-enforcement tool, but also as an aid to greater flexibility in the overall state-wide administrative functions.

The headquarters of the Communication Section are located centrally in New Smyrna, and here are found the necessary operating tools of the far-flung radio system. Communications Headquarters keeps accurate cost records of each radio unit, operating manuals and signal cards which are prepared and furnished to Commission personnel, and a stock of emergency parts and supplies.

The communication operating equipment now in the Commission consists of 289 mobile units, including pack and airborne sets, 24 base stations, including two stations at temporary sites. Six of the base stations are operated in cooperation with the State and Federal Forestry Services, two in cooperation with

the State Park Service, one in cooperation with a County Sheriff, and one in cooperation with the South Florida Conservation District.

Base station locations are: New Smyrna, Coldwater, Eglin Field, Panama City, Bonifay, Wilma, Tallahassee, Perry, Cross City, Lake

City, Jacksonville, San Mateo, Ocala, Williston, Leesburg, Tomoka, Magnolia, Lakeland, Myakka, Highlands, Okeechobee, Belle Glade, Immokalee and Miami.

During the biennial period, the base station located at Live Oak was removed and reinstalled at



Cross City. The station at Perry was removed from City operation to Commission operation. The Station at Lake Butler was removed and reinstalled at Belle Glade. The station at Blountstown was removed and reinstalled at Wilma. The old Crestview station was removed and reinstalled at Coldwater. A new station was installed at Eglin Field, and also at the Region headquarters office in Ocala. The old station at St. Cloud was removed and reinstalled at Magnolia Ranch. The station at Immokalee was relocated. A new station was installed in Miami.

Several antenna sites have been erected about the state, so ground mobile units may connect to the larger antenna and send and receive for greater distances at important points.

A new radio operation manual was compiled, and service and operator schools have been held about the state.

The Commission continues to co-operate with the Federal Civil Defense, and the Communications system has taken important part in all disaster tests. The Chief of Communications is a member of the State Civil Defense Communications Committee.

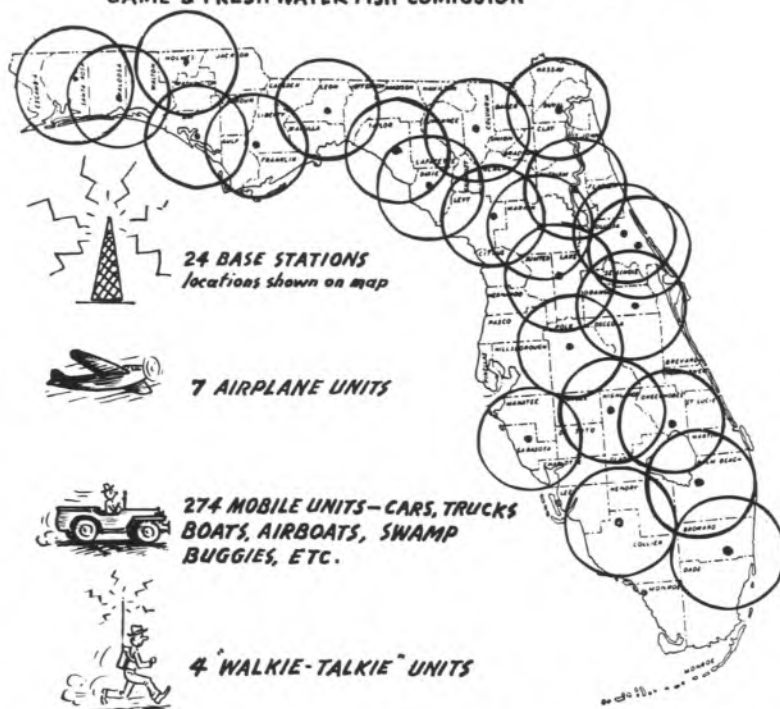
The Communications Division is composed of six technicians, and has repair facilities and personnel at New Smyrna, Panama City, Lake City and Okeechobee. During the biennial period, the Division made 348 base station repairs, 59 base installations, 2,123 mobile unit repairs, and 476 mobile unit installations. Communications personnel traveled 190,102 miles for 3,835 hours, spent 3,908 hours in repair, 2,318 hours on installation, 2,419 hours in general maintenance, 737 hours in developmental work, 3,400 hours in office work and reports, 3,118 hours in conference and instruction, and 749 hours in miscellaneous work.

Maintenance personnel traveled an average of 23 1/2 miles per month for an average of .5 hours travel per unit per month. They also spent an average of .52 hours repair per unit per month, and .34 hours per unit per month in installation of equipment. Each technician was responsible for the maintenance and operation of an average of six base and sixty-six mobile units.

The Commission has begun replacing the last of its old mobile unit equipment and at this time finds its communication system in the best condition since its inception. ●

## RADIO COMMUNICATIONS

### GAME & FRESH WATER FISH COMMISSION



NOTE: 30-mile radius around each base station location is normal car-to-station communications range. Station-to-station range and station-to-plane-to-car range is much greater.

#### STATION LOCATIONS

COUNTY	LOCATION	COUNTY	LOCATION
Santa Rosa	Coldwater	Marion	Ocala
Okaloosa	Eglin Field	Volusia	Tomoka
Bay	Panama City	Volusia	New Smyrna Beach
Holmes	Bonifay	Lake	Leesburg
Liberty	Wilma	Orange	Magnolia
Leon	Tallahassee	Polk	Lakeland
Taylor	Perry	Highlands	Sebring
Dixie	Cross City	Sarasota	Myakka State Park
Columbia	Lake City	Okeechobee	Okeechobee
Duval	Jacksonville	Palm Beach	Belle Glade
Putnam	San Mateo	Collier	Immokalee
Levy	Williston	Broward	Hollywood



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### THE REGIONAL OFFICES

NORTHWEST REGION.....	Panama City
207 East 15th Street, SUNset 5-5352	
NORTHEAST REGION.....	Lake City
301 North Marion, P. O. Box 908, Phone 1725	
CENTRAL REGION.....	Ocala
205 West Adams Street, MARion 9-2802	
SOUTH REGION.....	Lakeland
Lodwick Airport, P. O. Box 1392, MUtual 6-5171	
EVERGLADES REGION.....	Okeechobee
County Courthouse, P. O. Box 877, ROdeo 2-2851	

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# *The* South Florida Region Reports

C. R. REVELS  
Manager

**T**HE South Region, which may be described as the West Coast Region, includes 13 counties stretching from Brooksville on the North to Bonita Springs on the South. Counties included in the region are Charlotte, DeSoto, Glades, Hardee, Hernando, Hillsborough, Highlands, Lee, Manatee, Pasco, Pinellas, Polk and Sarasota. (Map Page 70.)

To bring the Game and Fresh Water Fish Commission as close to the hunting and fishing public as possible, we have assigned to the office in Lakeland, a Regional Manager, a Secretary, a Fish-Management Technician, an Educational Officer, a Pilot, a Radio Technician, three Area Supervisors, and 27 Wildlife Officers.

During the biennial period ending

June 30, 1956, our officers traveled a total of 1,102,406 miles making 1,102 arrests. While making the arrests, they checked 74,860 licenses and devoted over 148,500 hours to land patrol activities. Water patrol took up a little over 5,000 hours of their time, and resulted in the confiscation of 226 illegal fish traps and 21 illegal nets.

In this biennium, a restock area consisting of Hardee, DeSoto, Manatee, and Sarasota Counties was opened to turkey hunting. The area had been closed for several years, and after receiving excellent cooperation from the local residents, it produced over 1,300 turkeys for hunters the first year it was open. The results for the second year's hunt have not been tabulated at this

writing, but it is expected to compare favorably to the first year's. The folks living in these four counties should be commended for their efforts in trying to bring back the turkey population they remember from the "good old days".

This coming hunting season may see the opening of still another restock area in south Polk and Hillsborough Counties. Not expecting as large a game population here as in the other area, we are still very hopeful that the results will be satisfactory. If time spent by the officers patrolling the area is any criterion, then we may expect another highly successful project.

Another vital project being undertaken is the attempt to purchase new vehicles, run them a year, and then sell them for the approximate price of new vehicles. This practice would keep all field men in good, reliable cars and drastically cut down the high cost of operation. The idea is not new, but four such vehicles were sold last year for a net difference of \$75.00 per unit. Since that amount of money would have been spent within a year for new tires and batteries, considerable savings were effected for the Game and Fresh Water Fish Commission and the hunters and fishermen footing the bill. We expect to move more automobiles this year, on the same economical basis.

A service furnished the sportsmen of the area is our fisheries research and extension work. The regional fisheries technician, made 729 trips to visit various bodies of water within the region. These trips, with ensuing recommendations, resulted in the renovation and stocking of 56 old lakes and ponds, and the stocking of 254 new lakes and ponds with 254,140 bluegill and 61,828 bass fingerlings from the Winter Haven Hatchery. The above figures represent 518 acres of new additional water now under management and available to the fishermen.

Experiments in selective poisoning were also carried on within the region to the extent that now the waste fish, the gizzard shad, may be eliminated from a body of water without injury to other species present. This type of management tool is now used throughout the state. Further experiments in rough fish control are planned for the future, with the expectation of having an electrical shocker to help rid small streams of large concentrations of garfish during their spawning run. It is hoped that this will in turn improve fishing conditions in lakes fed by such small streams.

Of primary concern to the fisher-

men in the region is the current drought and its effect on the fish life. In some counties, lakes have hit an all-time low, with many of them drying up completely. This necessitated the seining of 26 lakes in an effort to save some of the fish that were thus left in distress. Practically all such fish were released in rivers nearby that still had some water left. Plans are being made now to restock those areas that were hit the hardest, just as soon as the water levels come up sufficiently. During the period, we had 33 fish kills in ponds, pits, and lakes, that were not necessarily due to low water conditions. In conjunction with such kills, our technician attended a Pollution School held at Florida Southern College, in Lakeland. The school was sponsored by the State Board of Health and conducted by the Robert A. Taft School of Sanitary Engineering from Cincinnati, Ohio. New methods of detecting various forms of pollutions were discussed, and tests made from nearby streams for practice.

In an effort to sell our program of conservation, our educational officer and several of our field personnel spoke before 150 civic organizations, showing films and slides of our activities in game and fish management. We have received excellent radio, television and newspaper coverage throughout our region and are deeply grateful for the interest and understanding shown by the

various sports writers and editors. It is largely through their efforts that our message of conservation can be brought to the hunters and fishermen. Along with public appearances before civic groups, we have endeavored to participate in as many fairs and fishathons as possible. Many folks visiting such fairs as the Tampa State Fair had never realized the vast potential that Florida has to offer with our fishing and hunting. Many viewed the largest game bird in North America, the bronzed wild-turkey, at such places and were pleasantly and properly impressed. The sight of the large bass, viewed in the portable fishtanks, brought astonishment to the visitors' faces. Invariably, the viewers asked questions from our Officers regarding all facets of our work.

Of particular importance are the South Florida public hunting areas, which have again proved highly successful. Besides the areas at Fish-eating Creek, the Avon Park Bombing Range, the Lee and Charlotte areas, and Richloam, we have added another at Croom, near Brooksville. Even though this is a relatively small area, it produced nearly 50 deer last year. This year, because of the extremely dry weather, the kill was somewhat lower, but high hopes are held for a bigger kill next year.

Judging from the excellent and almost unbelievable reports of successful hunting trips made this past



season, the region can be justly proud of having done a good job in providing the hunter with a better place to enjoy this type of recreation.

The proposed Water Control Commission will certainly play a big part in our future fish and game management programs. Possibly, through the efforts of such a Commission, working closely with the Game and Fresh Water Fish Commission, many more acres of land can be brought under proper management. The Hyacinth Control Program, which has already done a remarkable clearing job within the region, will continue to open old and new waterways for the fisherman. And with this aid to fishermen, we certainly feel that the time is not too far off when pollution problems may be met and fought with more success.

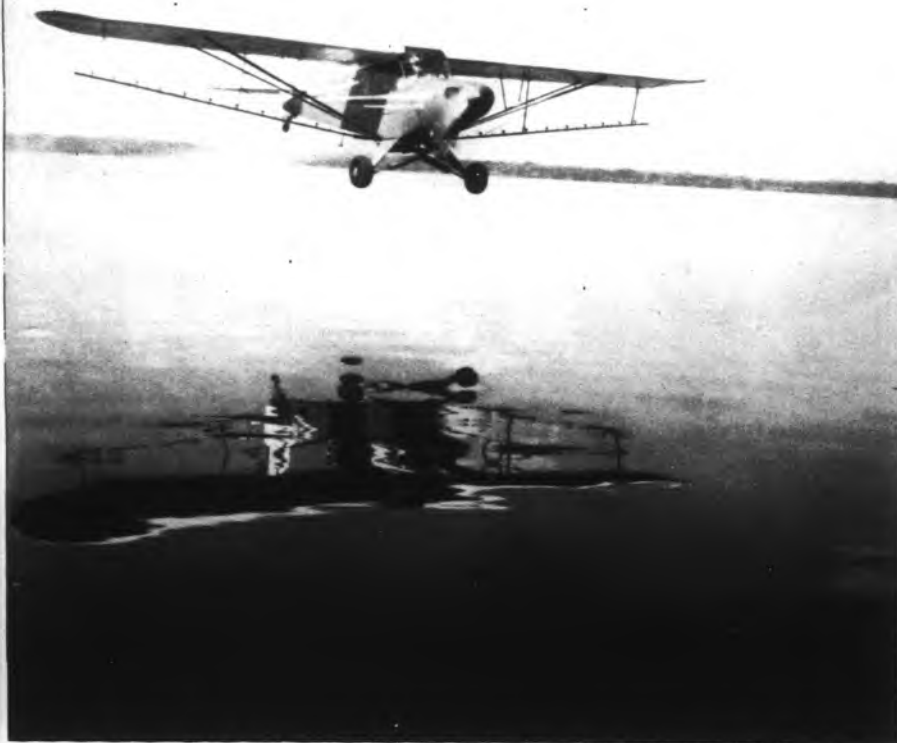
The future does look bright for fishing and hunting in this region.



#### 1954-1956

##### Recapitulation Wildlife Officers Activities South Florida Region

	1954-55	1955-56	TOTAL
1. Miles Traveled	547,604	554,802	1,102,406
2. Arrests Made	609	493	1,102
3. Licenses Checked	37,232	37,628	74,860
4. Hrs. Land Patrol	75,196	73,376	148,572
5. Hrs. Water Patrol	2,653	2,352	5,005
6. Hrs. Air Patrol	24	34	58
7. Hrs. in Court	689	591	1,280
8. Public Speeches Made	37	42	79
9. Hrs. in Meetings	1,881	1,022	2,903
10. Hrs. Game Mgt. Acts.	1,714	2,113	3,827
11. Hrs. Fish Mgt. Acts.	781	514	1,295
12. Persons Talked to Re. Conserv.	18,331	19,181	37,512
13. Informers Contacted	932	643	1,575
14. Hrs. Rend. Community Service	749	454	1,203
15. Complaints Alleged Vio. Invest.	1,050	840	1,890
16. Commercial Lic. Sold	224	63	287
17. Hrs. Professional Improvement	778	109	887
18. Magazine Subs. Sold	245	28	273
19. Hrs. Equip. Maintenance	1,358	1,426	2,784
20. Hrs. Demonstrations	1,811	2,100	3,911
21. Persons Public Assist. Rendered	832	503	1,335
22. Hrs. Ofc. Work	1,244	1,132	2,376
23. No. Nets Seized	13	8	21
24. No. Traps Seized	117	109	226
25. Misc.	837	173	1,010



# The Northeast Florida Region Reports

C. N. CLYMORE  
Manager

**T**he most significant change in the Northeast Region during the biennium was the transfer of the regional office from Jacksonville to Lake City. This move placed the regional office in the center of the region, and resulted in substantial savings in mileage, travel time, and expenses for all region-wide employees. This centralization permitted a reorganization of enforcement areas, which, together with a realignment of radio stations, gives us a more compact and efficient organization.

The 16 counties that comprise the Northeast Region are Alachua,

Baker, Bradford, Clay, Columbia, Dixie, Duval, Gilchrist, Hamilton, Lafayette, Madison, Nassau, St. Johns,\* Suwannee, Taylor, and Union. (Map Page 71.) The region logically divides into four enforce-

\* Plan for the next biennium, beginning July 1, 1956, include transfer of St. Johns County from the jurisdiction of the Northeast Florida Region to that of the Central Florida Region, with Levy County being transferred from the jurisdiction of the Central Florida Region to that of the Northeast Florida Region.

ment areas, each under the supervision of an area supervisor. Twenty-nine wildlife officers are the law enforcement arm of the region. Other regional personnel includes a regional manager, secretary, education officer, three radio station operators, pilot, fish management technician, and radio engineer. In addition, there are six game management technicians working in the region, two more than during the previous biennium. These additions, together with an added radio engineer and a radio station operator, give the region a working force of 48 persons, which is three less than in the previous reporting period.

Despite the fact that fewer officers were in the field, the statistical totals of the work accomplished by these men overshadows that of the previous two years. A compilation shows the men traveled 1,141,378 miles, put in 172,222 of land patrol, checked 49,801 licenses, and made 962 arrests. The licenses - checked figure doubtless includes many duplications, but the old sportsman's complaint of never having his license checked is seldom heard nowadays. Twenty-six illegal but usable deer, seven turkeys, and 3,922 pounds of fish were seized by the men, and donated to charitable institutions. During the course of 23,740 hours of water patrol, officers destroyed 180 illegal fish traps, and confiscated four seines totaling 700 yards in length. This last figure is considerably lower than that reported for the previous two years, and reflects a more vigorous approach to the problem, as well as low-water conditions.

As previously mentioned, the relocation of radio stations in this region has greatly increased the effectiveness of our communication system. All officers are radio-equipped, and, with stations now located at Jacksonville, Lake City, Perry, Cross City, and Williston, there are no areas where radio coverage cannot be achieved. It is hard to overestimate the usefulness of the radio as a law enforcement tool in this region.

As important as law enforcement is, the long-range goal in this region is recognized as education of the public, and no effort is spared in this department. All personnel participate in this phase of our work; but the main burden, of course, falls on the Education Officer. He is almost constantly on the road, making talks to school groups, civic clubs, and sportsmens organizations, working with youth groups, getting out favorable news releases and pictures,



and generally spreading the word of good conservation. Much emphasis has been laid on this work during the past two years in this region, and a growing awareness on the part of the public of the need for following good conservation practices is plainly apparent in many of our counties.

Requests for assistance with fish management problems have continued to increase, and the regional fish management technician works hard to see that all requests are promptly answered. In addition to pond poisoning and noxious plant control, the technician stocked 102 ponds, lakes, and streams with 185,500 bream, and 67 bodies of water with 87,900 largemouth black bass. He inspected 246 lakes and ponds. He assisted the fish management division on several large projects, and was in turn greatly aided by the hyacinth control unit with several hyacinth control problems in the region.

The seining program in Newnan's Lake was discontinued when results showed that the haul seine was not a satisfactory tool in controlling gizzard shad.

A return visit to the Yateras, located near the U. S. naval base in Cuba, was made possible by the U. S. Navy. The regional manager and two fish technicians were unable to find any survivors of the 5,000 fingerling bass placed in the river in 1953.

The seven management areas located in the Northeast region total 698,250 acres, with all but 96,250 acres available for hunting. The steadily increasing number of permits sold testifies to hunters' satisfaction with the management area program in this region. Larger kills of all game species are reported in the areas every year, which indicates that the game biologists stationed in this region are doing an outstanding job.

Reports show that only 594 hours were flown by the regional plane during the biennium, but this was due to the fact that the plane was out of service for several months for repairs, and that we were without a regular pilot for another long period. We were fortunate to secure a pilot who had four years of pilot-game warden experience with the Federal government, and in securing a Cessna 170B airplane for him to use in his work. This plane is well suited to the needs of law enforcement work, and the experience of the pilot has enabled him to be of great assistance to the officers on the ground in making cases. Illegal fire hunters have been known to shut off their light and go home upon hearing a plane near them, whether it was our plane or not. They have learned that a plane in the vicinity very often means that wildlife officers in cars will soon make their appearance, and it is believed that considerable game has been saved as a result of the use of the plane.

Another important use of the plane is in fire spotting. The pilot is always on the lookout for fires while on patrol, and has been the first to report several fires. The plane is available to personnel of this and other regions when haste and distance are factors in making trips, and has been especially useful in this respect on several occasions.

The Northeast Florida Wildlife Officer's Club, composed of officers of the region, continues to hold its periodic meetings, and has seen the practice spread to other regions. Meetings are held quarterly, at which time the men have the opportunity to exchange ideas and experiences, and, quite often, officials from the Tallahassee office are present to explain new policies and programs, and to answer questions that arise during the course of the officer's work. It is felt that these meetings are invaluable from the standpoint of morale.

The formation and encouragement of sportsmens groups is one of the most important aspects of the work in this region. A good working conservation program is not possible without the cooperation of the public, regardless of the efforts of a State conservation agency. All personnel of the region recognize this fact, and no effort is spared to help each and every sportsmens club in the region to be a success. Several new clubs have been formed in the region in the last two years, and they, in turn, have been extremely helpful to the personnel of the region. On several occasions, members of sportsmens clubs have held violators at the scene of violation until the arrival of the wildlife officer, and have appeared as witnesses at the trial. This type of cooperation between the two groups bodes well for the success of wildlife conservation in Florida. ●





# The Northwest Florida Region Reports

**J. W. BICKERSTAFF**  
Manager



**T**he Northwest Florida Region is comprised of sixteen counties making up the Third Congressional District of Florida.

The Northwest region is an area of approximately 7,713,639 acres, bordered on the west and north by Alabama and Georgia, and on the south by the Gulf of Mexico. This region is commonly referred to as the "Big Bend" or "Pan-handle" of Florida.

Counties included in the Northwest Region are Bay, Calhoun, Escambia, Franklin, Gadsden, Gulf, Holmes, Jefferson, Leon, Liberty, Okaloosa, Santa Rosa, Wakulla, Washington, Jackson and Walton. (Map Page 70.)

From a fish and game conservation viewpoint, Northwest Florida is distinctive when compared to the rest of Florida. The majority of the fishing pressure comes from non-resident weekend fishermen, and is restricted mostly to rivers or similar waters. An estimated eighty percent of the fishermen are cane pole addicts, and the pan-fish is by far the most sought after species. Topographically, Northwest Florida is composed of hills, pine forest, small lakes, and hardwood and cypress swamps.

Of the approximately 7,713,639 acres in the Northwest region, over 865,000 or 11.2 percent, is now under a Commission supervised game management or public hunting program. There is a total of eight wildlife management areas in Northwest Florida, seven of which are open for public hunting, to give the sportsmen a total of 719,000 acres of managed hunting. These controlled hunting areas include the 67,000-acre Leon - Wakulla area and the 110,000-acre Liberty area located in the Apalachicola National Forest, the 110,000-acre Gaskin area located in Gulf, Calhoun and Bay counties, as well as a portion of the Aucilla area (25,000 acres located in Wakulla and Jefferson counties), and the 3,000-acre St. Marks area, which is the only management area in the state operated solely for waterfowl, and the newly established 4,000-acre Woodruff area. The 390,000-acre Eglin area is unique in the fact that the hunt is made possible through the cooperation of the U.S. Air Force and the Game and Fresh Water Fish Commission.

There is one special archery hunt held annually within the Northwest region. The Eglin Archery Hunt produced a total of seven deer for the 1956 hunt. Controlled bear hunts were conducted in the Liberty area during the month of October. The Northwest region has been host to the Florida Fox Hunters Associa-

tion field trials for the past four years. The Northwest region is also unique in being the first region to conduct a spring gobble hunt. This hunt was first held in the Eglin area as a controlled hunt in 1955, and region-wide in 1956.

Rediscovery of a probable new species of Florida black bass, the "Chipola Bass", was confirmed by the Department of Biology, University of Florida, in 1956. The Chipola Bass, found by the Game and Fresh Water Fish Commission's Lake and Stream Survey team, is described as a "copper-colored streamlined scrapper that could be compared to the Northern Smallmouth in both its fighting ability and in its choice of habitat." While presently restricted to the waters of the Chipola River, the rediscovery of the Chipola Bass does constitute an important find to bass fishermen.

The Northwest region is divided into four enforcement areas, with headquarters located in Panama City. Personnel serving the region include a regional manager, education officer, pilot, fish management technician, radio engineer, secretary, four area supervisors and thirty wildlife officers.

A summary of the activities of the enforcement section for the past year, January 1956 through December 1956, shows that wildlife officers spent 78,925 hours on land patrol, 16,500 hours on water patrol, made 501 arrests for game and fish law violations, checked a total of 83,027 licenses, and traveled 592,582 miles in performance of their duties.

Meetings are held quarterly for all personnel in the Northwest region, and monthly for the four law enforcement areas. These meetings are designed to keep the personnel of the Northwest region abreast of the changes in the programs and policies of the Game and Fresh Water Fish Commission, and to serve as a morale factor, and education medium. Through the use of such meetings, the Northwest region is constantly striving to produce a better informed and, thereby, a better qualified wildlife officer. The wildlife officers of the Northwest region are today better qualified, better equipped and more capable of performing the duties of a Commission wildlife officer than ever before.

The Northwest Florida regional fisheries technician investigated

numerous fishery problems in the past two years. Six hundred and fifty-two inspection visits were made to various ponds and lakes. Of this number, 358 were initial inspections. Technical assistance was provided in all phases of small lake and pond management. The greatest possible utilization of hatchery fingerlings has been obtained by inspections to determine stocking needs. A total of 473 bodies of water was stocked, and 1,397,100 bream and 133,824 bass were released.

Fish kills were investigated on the Escambia, Ochlockonee, Chattahoochee and Little Rivers to determine whether or not industrial pollutions were responsible.

The Game and Fresh Water Fish Commission operates one fish hatchery in the Northwest region, the Blackwater hatchery located at Holt, which produces an average of one and a half million bluegill fingerlings and seventy thousand bass fingerlings per year. The Dead Lakes hatchery located at Wewahatchka has been closed due to a shortage of water. The Northwest region fisheries technician assisted hatchery personnel with hatchery management so that maximum utilization of existing facilities could be obtained.

The regional technician participated in the following projects and surveys; Lake George, Lake Jackson, Lake Bradford, Merriitts Mill Pond, North Bay and Dead Lakes, and, attended numerous meetings throughout the region concerning a variety of problems. Talks and lectures were presented to schools, clubs, and civic organizations on proper fish management technique and procedure.

The region pilot flew a total of 634 hours as law enforcement aid. Close cooperation between air observation and law enforcement resulted in numerous arrests that otherwise would have been impossible. The region pilot also assisted in a number of air searches, and conducted waterfowl inventories in the St. Marks refuge and throughout the entire region.

The region education officer, as routine duty answers all information requests, presents lectures on wildlife, conservation of natural resources, and various subjects, to sportsmen's organizations, civic clubs, schools and other allied

groups, and handles public relations activities concerning the Commission and the Northwest region. He also conducts a year-round training program among the wildlife officers of the region, and is responsible for seeing that the Commission's activities, programs and policies are properly presented to the people of the Northwest region.

The communications section of the Northwest region consists of one radio engineer who is responsible for the installation and maintenance of the six base stations and the sixty-seven mobile units in the region. With the present installation of six base stations, the Commission now has complete radio coverage over the entire Northwest region. ●



Releasing bluegill fingerlings in Northwest Florida to improve fishing conditions.



Storing illegally-taken deer for court evidence in law-enforcement arrest case.





# The Everglades Florida Region Reports

FRED W. STANBERRY  
Manager

**T**he Everglades Region encompasses nearly eight million acres of land ranging from the populous tourist centers of Miami, West Palm Beach and Fort Lauderdale to the forbidding primitive areas of the Everglades. The region includes the nine counties of Broward, Collier, Dade, Indian River, Martin, Monroe, Okeechobee, Palm Beach and St. Lucie. (Map Page 72.)

The Everglades swamp area has been described as a huge, shallow, creeping river hidden by a sea of grass. Mystery, intrigue and adventure are words instilled in the minds of many sportsmen who have entered into this vast realm of sawgrass and sub-tropical swamps that composes the Everglades of South Florida.

To those who have experienced a hunting or fishing trip by airboat into the Everglades sawgrass, or by swampbuggy, half-track or weasel into the Big Cypress Swamp, the region contains an ever-fascinating, daring land that challenges the imagination of man to conquer its mys-

teries. Certainly, the region contains some of the most unusual hunting and fishing in the world.

The distinctive mark of the Everglades region is the need for highly specialized equipment to fish, hunt, explore or work the uncivilized areas. Many sportsmen have evolved mobile equipment capable of conquering the remotest areas. So proud are they of their swamp equipment—swamp buggies, airboats, or weasels—that two of the more thrilling events in South Florida are the "Swamp Buggy Day" parade and races at Naples, and the airboat races held each year in West Palm Beach, where the equipment owners compete for highest honors.

The Commission's Everglades region contains over one-third of the population of the State of Florida. It also contains the most desolate wilderness areas. The region, based at Okeechobee, is constantly faced with specialized problems peculiar only to this region.

The region has a force of 20 wildlife officers, four area supervisors,

one pilot, and a regional manager that make up the law enforcement staff. These men are all veterans who are highly specialized; self trained by many years of association with the vast reaches of the Big Cypress, Lake Okeechobee and the Everglades sawgrass even before joining the Commission. This experience is helpful to the job of law enforcement and most of all to wilderness survival in view of the many dangers encountered in the more isolated areas.

Most of the region's highly specialized equipment used by officers today was developed by their knowledge and experimentation. Stainless steel bottoms replaced the aluminum on the region's new airboat hull designs to give the Everglades wildlife officers the fastest airboats in the 'glades, in spite of added equipment such as extra gas and camping equipment necessarily carried for extended law-enforcement patrols. Special tracks for the Commission half-track mobile equipment had to be developed so the equipment would be reliable at all times and not fail at a crucial moment.

This regional experimentation is still going on, and the results have been appreciable. But, still, there is the problem of more and more hunters and equipment invading this region each year. The Everglades personnel shall continue to improve their present equipment to widen its range and potential to keep pace with increase of sportsmen in the area.

Because of the four completely different types of terrain found in this region several different kinds of specialized equipment are needed to patrol the areas. Airboats are a must in the sawgrass areas, while swamp buggies and half-tracks are often used during a low water period. Swamp buggies, half-tracks and weasels are mandatory in the Big Cypress, where trees, rocks and mud would soon rip out the bottom of an airboat or bog down a jeep. The northern flat pine portion of the region requires only jeeps and automobiles. In the Lake Okeechobee district, consisting of open water and marsh areas, airboats are most suitable, with one inboard and several outboard boats patrolling the open water.

One can surmise from the foregoing that equipment is the key note to success.

Besides their primary duty of law enforcement, wildlife officers in this region have continually been called upon for many other tasks ranging from collecting biological data to rescue work. Throughout the past



two years, three escaped convicts have been found and apprehended, messages of sickness and death taken to hunters in the field, and several rescues were made of fishermen in overturned boats and hunters lost in swamps and the Everglades. Hunters accidentally shot or stricken with sickness were given immediate first aid and swift transportation to hospitals. Creel census and bag checks made by wildlife officers have given a more complete picture to many of the game and fish management department projects.

Much of the trapping and restocking of turkey, deer and wild hogs was done by wildlife officers under supervision of game management technicians.

A trail cutter was designed by wildlife officers, built and put into operation in the marshes on the west shore of Lake Okeechobee to cut clearly defined boat trails for duck hunters and fishermen making otherwise inaccessible areas available to the eager sportsman.

Many of the wildlife officers and other personnel of the region have presented television shows continually throughout each year. The "Wide Wide World" TV show in the Everglades was a tremendous undertaking for our region, but through the untiring efforts of all concerned the show, depicting the Everglades and its wildlife was a huge success.

Our personnel also cooperated effectively with Eastern Air Lines in bringing a group of sports and outdoor writers into the Everglades on a public relations trip of hunting, fishing and sightseeing throughout Florida resulting in much favorable publicity in northern newspapers.

The Everglades Region was the first region to join the Ground Observer Corps, with mobile outposts in many of the normally inaccessible points in South Florida. Field

glasses have been furnished by the Observer Corps for better plane spotting. Personnel also participated in nation-wide Civil Defense alerts.

The Belle Glade base radio station was added October 25, 1955, to give a more complete radio coverage of the region. A new base station in Hollywood, Florida, will be erected early in 1957 to link the southeastern part of the region with other base stations.

The demand for fisheries efforts on both public and privately owned waters continued to increase commensurate with the general growth of the state. The fisheries extension service experienced not only increased calls for management recommendations on newly created ponds and lakes, but also more calls on weed problems, fish kills and pollution problems on old ponds. Multiple ownership of non-public waters in large real estate developments present difficult human relationship strains chiefly because of the cost of management practices, and the objection to the turbid appearance of fertilized waters.

Lake Trafford, near Immokalee, was selectively poisoned twice to reduce the overbalanced gizzard shad population, and, to date, the crappie fishing has been the bag-limit type. Whether the bass population will re-establish itself, using hatchery fish to hasten any potential favorable change, remains to be determined. Local wildlife officers are recording catch data while checking licenses, and thus provide very essential data as to the value of the treatment of the lake with respect to the success of the sport fisherman.

The Commission's electrical roughfish control unit has been working for months in reducing the rough fish population of the Tamiami Canal, aided considerably by the general drought conditions which otherwise have seriously reduced sport fishing success.

During 1956, two part-time projects were begun and will continue until results indicate cessation; the first is a limited fishing pressure and success survey of Lake Okeechobee; the second, an investigation into the cause or causes of oxygen depletion in the canals during the dry season draw-downs and the first rains of the new wet season.

Present trends indicate intensification of the problems of access points to public fishing, pollution from various sources, need for fish population investigations in canals, lakes and small ponds, more suitable aquatic weed and algae killers, and need for better water management and utilization from the sport fishing aspect on watersheds, rivers and lakes.

During the period covered by this report, the regional fisheries technician inspected 189 lakes and ponds. A total of 39 bodies of water were stocked, and 44,120 bream and 17,558 bass were stocked.

During this period, wildlife officers traveled 791,724 miles, made 1,226 arrests, checked 83,441 licenses, spent 140,936 hours on land patrol, and 9,468 hours on water patrol. A total of 1,634 hours was devoted by the pilot wildlife officer to air patrol, and regional employees spent 1,431 hours in court, made 59 speeches, spent 2,076 hours in meetings, 4,179 hours in game management work, 527 hours in fish management work, talked to 29,937 persons regarding conservation, contacted 1,537 informers, rendered 413 hours community service, investigated 1,432 complaints and alleged violations, sold 113 licenses, spent 1,640 hours on professional improvement, 3,407 hours on equipment maintenance, 1,222 hours on demonstrations, rendered public assistance to 1,887 persons, spent 2,605 hours on office work, seized 11 nets, seized 78 traps, and spent 1,881 hours on miscellaneous work. ●

Wildlife officers voluntarily improve efficiency and fellowship by forming pistol team for intra-departmental competitions.



Wild hogs were trapped in South Florida Region and released in Everglades Region. Hogs are game animals in certain sections.



# The Central Florida Region Reports

D. C. LAND  
Manager

**T**he Central Florida Region, formerly known as the Fifth District, is composed of Brevard, Citrus, Flagler, Lake, Levy,\* Marion, Orange, Osceola, Putnam, Seminole, Sumter and Volusia Counties. The smallest of these counties is Seminole with 347 square miles, while the largest is Marion County with 1,624 square miles. The entire area in the Central Florida Region covers 11,870 square miles, and takes in some of the finest hunting and fresh water fishing area in the State. It also encompasses a large part of the St. Johns River and its tributaries, including Lake George. (Map Page 71.)

Until October, 1955, Mr. David Swindell was manager of the region, and offices were at the old Montbrook Air Base at Williston, Florida. At that time, Mr. Swindell was made Liaison Officer for the Game Commission and transferred his activities to Tallahassee. Mr. D. C. Land, an officer with many years experience in the Commission, was made manager to replace Mr. Swindell. In December, 1955, the offices of the region were moved to Ocala, Florida. Also, at this time, the Supervisor of Youth Conservation Education moved his office to Ocala, and the activities of the Aircraft Division

were moved to the Ocala Municipal Airport. The Williston offices were taken over by the Hyacinth Control Division of the Commission. Offices in the Central Florida Region also include the Lake Fisheries Experiment Station at Leesburg, Florida.

At the time of this writing, there are 27 Wildlife Officers and three Area Supervisors handling law enforcement work in the region. The rest of the staff is composed of the regional manager, information and education officer, fish management technician and secretary-radio operator.

Other activities in the region include the work of seven game management personnel covering the various game management areas in the territory.

The office of the Supervisor of Youth Conservation Education includes a part-time secretary-radio operator and the Aircraft division employs a part-time secretary-radio operator and an aircraft and engine mechanic, in addition to the chief of the division.

Also included in the region are the offices of the Chief of Communications, located at the airport at New Smyrna Beach. The assistant chief of communications is the radio engineer for the region.

The communications system is very effective, with stations in Ocala and Leesburg, manned by Commission personnel, and stations at San Mateo (Putnam County), Tomoka (near Daytona Beach) and Magnolia (Osceola County) manned by Florida Forest Service personnel. The office of the district supervisor for

the Forest Service is located in Ocala, making cooperation between the two agencies in this instance most effective for good radio coverage of the area. In addition to this, all officers and technicians are equipped with radio mobile units. There is very seldom a time that a field officer cannot contact a station, belonging either to his own region or that of another region.

Wherever possible, all officers and personnel have residence telephones, creating a minimum of delay in handling emergency matters and administrative problems which might be of a confidential nature.

The effectiveness of radio and telephone is noted in the fact that, while the Central Florida Region Wildlife Officers traveled only 1,100,511 miles in the performance of their duties in the last two years, as compared with 900,000 miles in the year 1953, the total number of arrests is 843, as compared with 600 in the previous two-year period. The officers spent 172,085 hours in land patrol and 41,805 hours in water patrol. In the performance of their duties, they checked 55,492 fishing and hunting licenses. They also confiscated 24 illegal fishing nets, plus 14 boats and 7 motors being used with the above-mentioned illegal nets. In addition, they gave to charitable institutions 26 illegally taken or road-killed deer, 1,994 pounds of illegally taken fresh water game fish and cat fish, and 2,932 pounds of illegal shad.

A great deal of advancement has been made in the type of equipment being used by officers in the Central region. Approximately 95% of the field personnel have 1955 and 1956 vehicles, all of standard make and color. Nineteen out of the 27 officers have boats, motors and other equipment necessary for efficient water patrol. Plans are under way to equip the rest of the officers with the necessary boats, motors and trailers for water patrol, if and when needed.

For the past two years, one of the major problems in law enforcement in the Central Florida Region has been an illegal device known as a "monkey machine" used by certain fishermen in the St. Johns River and Lake George territory. Catfish are very abundant in the St. Johns River, and the "monkey machine" stuns them with electricity carried by electrodes placed in the water. The stunned catfish come to the surface, where they are dipped into the boats. This is a profitable undertaking, since hundreds of pounds of catfish may be taken in a single

\* Plans for the next biennium, beginning July 1, 1956, include transfer of Levy County from the jurisdiction of the Central Florida Region to that of the Northeast Florida Region, with St. Johns County being transferred from the jurisdiction of the Northeast Florida Region to that of the Central Florida Region.

operation by a group of fishermen working together.

"Monkey fishing" has been the subject of a great deal of unfavorable comment from sports fishing interests throughout the State, who have claimed that "monkey fishing" has been extremely detrimental to sports fishing in that particular area involved. The controversy grew into such proportions that the Fisheries Division of the Game and Fresh Water Fish Commission made a complete investigation of that water area.

In April, 1956, fisheries biologists, technicians, helpers and a secretary set up temporary operations at Welaka. Experiments were conducted for several months, and a complete report was made to the Commission.

The "monkey machine" is an illegal device, outlawed in the entire United States. Because of this, the fishermen using this type of device have been the object of a great many hours of water patrol by officers, and have caused the Commission to buy many thousands of dollars worth of equipment which would not have otherwise been necessary. Plans are presently under way to make this into a separate area, with its own crew and Area Supervisor to combat the illegal types of fishing.

The ardent hunters in Central Florida has less than 100 miles to travel to reach any one of the seven game management areas in the Central Region. These game management areas include over one-half million acres. The smallest in area is Holopaw in Osceola County, with 23,000 acres, while the largest is the Ocala National Forest with 203,580 acres open to public hunting. The others are Tomoka (Volusia County), Farnton (Volusia County), Sumter-Citrus (Sumter and Citrus Counties), Richloam (Sumter, Hernando and Pasco Counties), and Croom (Hernando and Sumter Counties). Every species of native game animal, migratory and non-migratory game birds and waterfowl found in Florida are available to the hunter in this region.

Fish and game management technicians are available to the public



for advice and assistance in the development of better hunting and fishing areas. The regional fish management technician, based at Leesburg, annually checks hundreds of small lakes and ponds and often assists the information and education officers by giving lectures and talks of a specialized nature. The fish management technician's aid to the people of the region may be in the form of weed control, rough fish removal or re-stocking where it is found necessary. During the past two years, 261 ponds and lakes were investigated and checked for one of the above-mentioned reasons. Of this number, 41 ponds were completely poisoned to eliminate rough-fish populations, and later restocked. Hatchery fish stocked during this period amounted to 236,000 bream and 113,000 bass. Total number of bodies of water stocked was 191.

In addition to regional work, the technician assisted the Fish Management Division with selective poisoning operations on four large public lakes. One of these lakes,

Starke Lake, is located in the Central Region at Ocoee. Fish survey work was also done at Lake George and Lake Apopka with the Fish Management Division; both of these lakes are located in the Central Region.

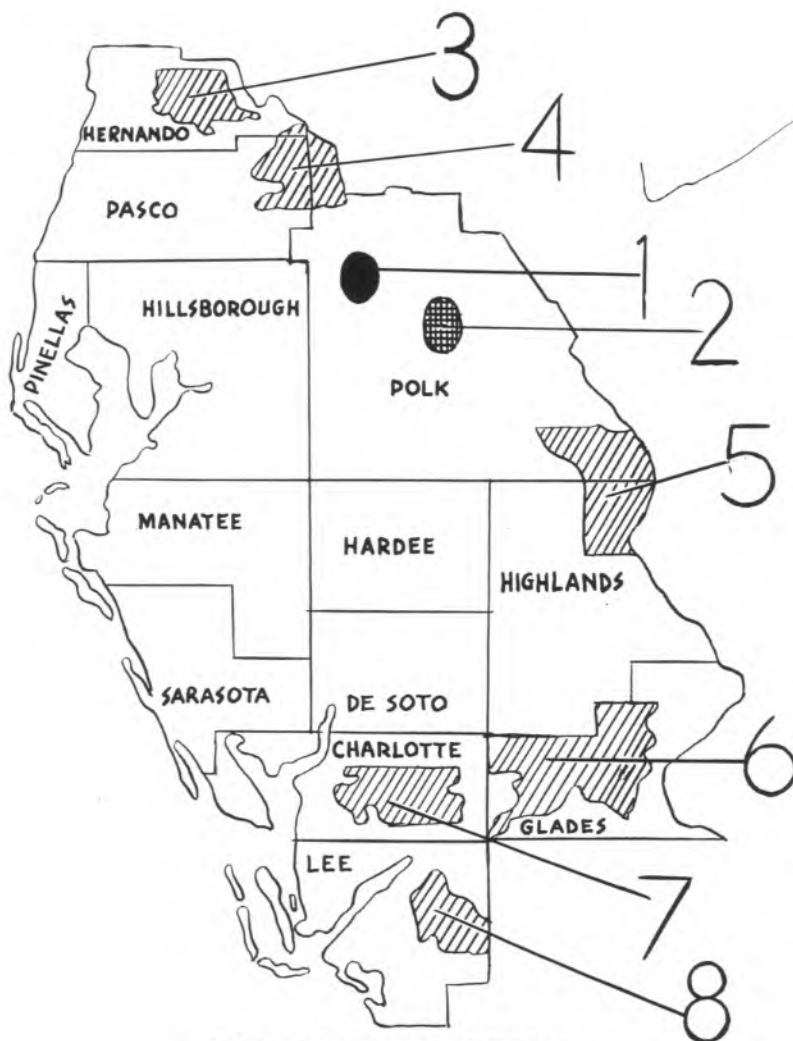
The information and education officer has one of the most versatile positions in the Central Florida Region. He is responsible to the Chief of Information and Education and to the regional Manager. It is his duty to disseminate as much information as possible to the people of the region concerning the activities of the Game and Fresh Water Fish Commission. He gives talks and lectures and shows movies and slides to various social, civic and educational groups. He makes appearances on television and radio, supervises numerous fishathons for children throughout the area, annually mails out thousands of pieces of material especially prepared by the Commission, prepares press releases on a local level, and wherever possible takes pictures of any interesting event which may occur in the region. He may also work as a part-time radio operator and wildlife officer if he has nothing else to do.

It is the hope of the personnel of the Central Florida Region that they have been successful in maintaining their part of the goal of the Game Commission, which is good conservation and better hunting and fishing throughout the State. ●

Kill Comparison for the Central Florida Division Management Areas  
1955-1956

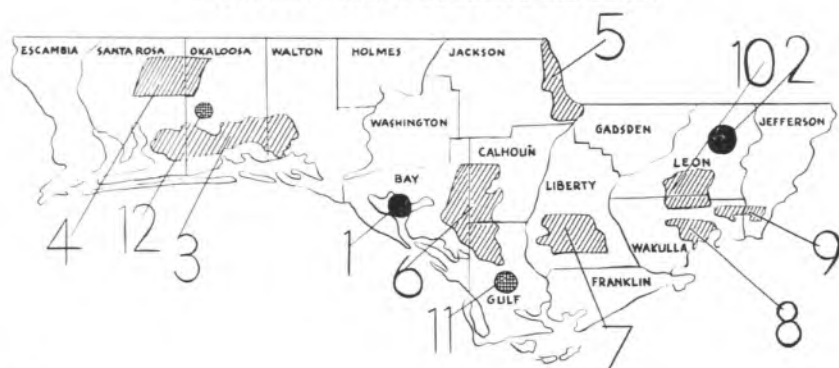
Area	Deer	Turkey	Quail	Cat Squir.	Duck	Dove	Bear
Farnton	61	58	212	702	29		
Gulf Hammock	120	55	23	5187	741	4	
Holopaw	3	4	198	1			
Ocala	593	12	144	2776	141	43	2
Richloam	17	38	373	2577	55	2	
Sumter-Citrus	3	74		5866	501		
Tomoka	19	32	54	140	2	13	

# THE ADMINISTRATIVE



SOUTH FLORIDA REGION

NORTHWEST FLORIDA REGION



## SOUTH FLORIDA REGION

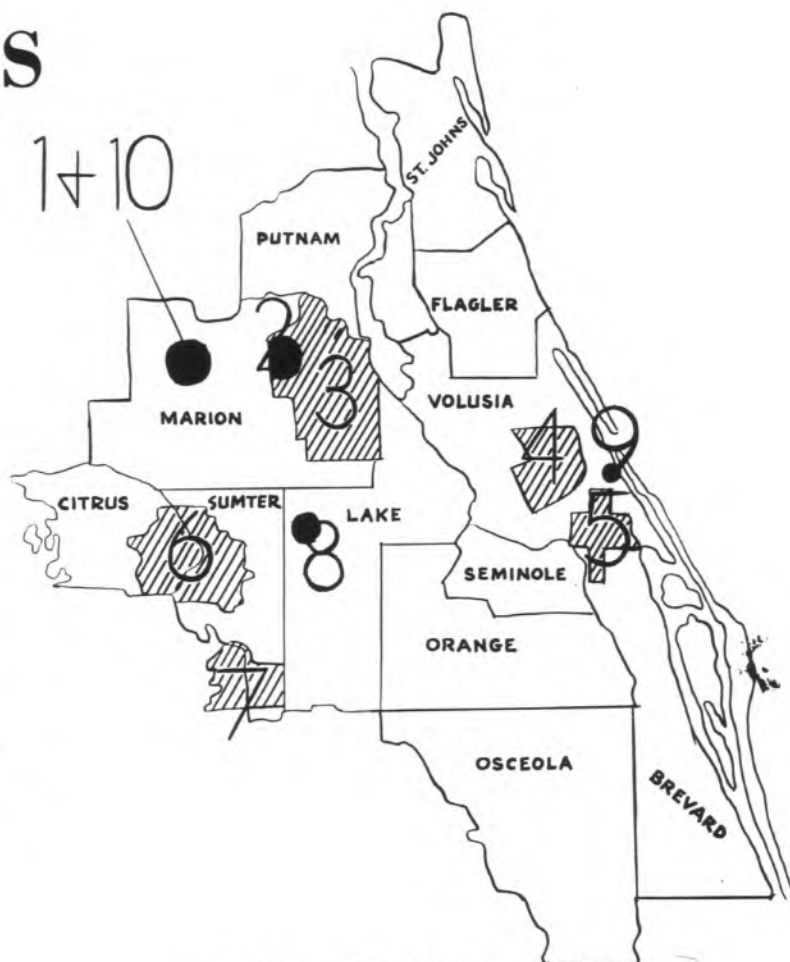
1. Regional Office—Lakeland
2. Winter Haven Hatchery
3. Croom Wildlife Management Area
4. Richloam Wildlife Management Area
5. Avon Park Wildlife Management Area
6. Fisheating Creek Wildlife Management Area
7. Cecil M. Webb Wildlife Management Area
8. Lee Wildlife Management Area

## NORTHWEST FLORIDA REGION

1. Regional Office—Panama City
2. Commission Main Office—Tallahassee
3. Eglin Wildlife Management Area
4. Blackwater Wildlife Management Area
5. Woodruff Wildlife Management Area
6. Roy S. Gaskin Wildlife Management Area
7. Liberty Wildlife Management Area
8. St. Marks Wildlife Management Area
9. Aucilla Wildlife Management Area
10. Leon-Wakulla Wildlife Management Area
11. Wewahitchka Hatchery
12. Holt Hatchery



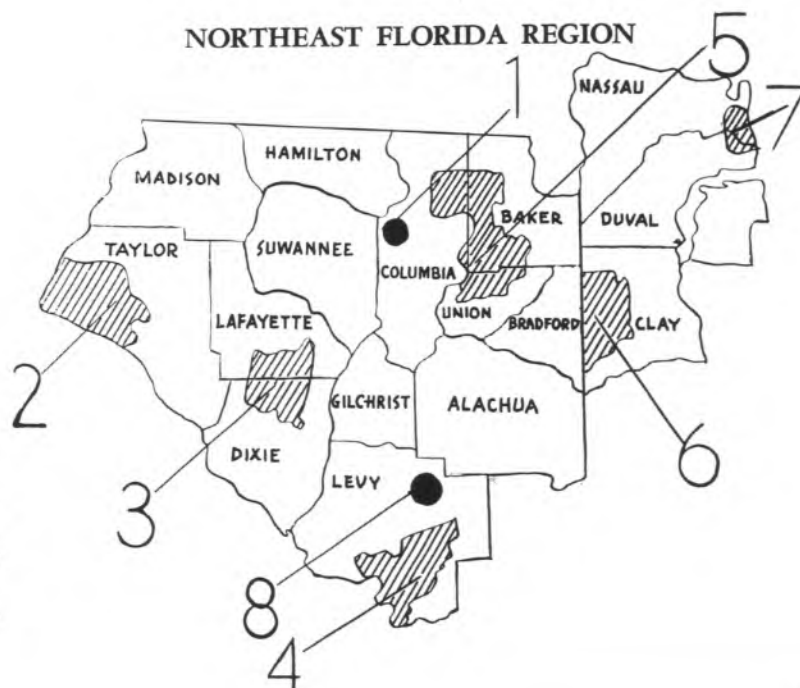
# REGIONS



## CENTRAL FLORIDA REGION

1. Regional Office—Ocala
2. Youth Camp—Lake Eaton
3. Ocala Wildlife Management Area
4. Tomoka Wildlife Management Area
5. Farmton Wildlife Management Area
6. Sumter-Citrus Wildlife Management Area
7. Richloom Wildlife Management Area
8. Leesburg Fisheries Station
9. Communications Hdq.—New Smyrna Beach
10. Aviation Hdq.—Ocala

## CENTRAL FLORIDA REGION



## NORTHEAST FLORIDA REGION

1. Regional Office—Lake City
2. Aucilla Wildlife Management Area
3. Steinhatchee Wildlife Management Area
4. Gulf Hammock Wildlife Management Area
5. Osceola and Lake Butler Wildlife Management Areas
6. Camp Blanding Wildlife Management Area
7. Little Talbot Island Wildlife Management Area
8. Hyacinth Control Hdq.—Williston

# ADMINISTRATIVE REGIONS (Continued)



## EVERGLADES REGION

Regional Office—Okeechobee

Collier Wildlife Management Area—Collier County

Big Cypress Wildlife Management Area—Collier County

Everglades Wildlife Management Area—Broward, Dade and Palm Beach Counties

J. W. Corbett Wildlife Management Area—Palm Beach County

Okeechobee Wildlife Management Area—Okeechobee County

EVERGLADES REGION

# YOUTH CONSERVATION EDUCATION

DENVER STE. CLAIRE

-SUPERVISOR-

**S**ince the adult citizens of tomorrow are the youth of today, the proper training of young people is paramount in any education program.

The Florida Game and Fresh Water Fish Commission has long placed great emphasis on the importance of developing a program designed to educate our youth in the proper concepts of natural resource conservation.

Recognizing its obligations in youth education, the Commission, in 1952, created its Junior Conservation Club program. The clubs were later banded together in a Youth Conservation Club League of Florida, sponsored by the Commission. A summer camp training program was also initiated.

During the ensuing years, the program has progressed to the point where an expansion of the Commission's youth education program was not only desirable, but almost mandatory. Public demand for further Commission-sponsored youth education services made such an expansion necessary.

During the biennial period covered by this report, the Commission's Information and Education Division re-defined its youth education program, and shifted the emphasis from the Junior Conservation Clubs and the League to a program which would be more inclusive without neglecting either the Clubs, the League or the Camp.

The entire program was re-evaluated in the first portion of 1955, and, in March of the same year, the title of Supervisor of Youth Education was established as an integral part of the Information and Education Division. This was done by a clarification of purposes and a re-assignment of duties and responsibilities,

without increasing the number of personnel involved.

The responsibility of developing a multi-phased youth education program was assigned to the Supervisor of Youth Education, who was formerly known only as the Executive Secretary of the Junior Conservation Club League. As the result, in the past two years greater attempts have been made to reach as many young people in Florida as possible with an adequate conservation message.

The goal of youth conservation education, however, cannot be achieved without a definition of an exact purpose. To develop the conservation education program for youth, a set of five-fold concepts has been used:

1. To train our youth toward a better understanding of con-

servation of our natural resources.

2. To instill in the minds of our youth a greater appreciation of the out of doors and to recognize the great need of protecting and improving the State's outdoors areas.
3. To teach them the wise use and planned maintenance of our soils and waters.
4. To guide them in the sound use and intelligent management of our fish and wildlife.
5. To help them foster the proper utilization and systematic perpetuation of our forests.

Using these five-fold concepts as the basis for the program, it has been necessary to employ various methods to capture and hold the interest and cooperation of our youth. To stimulate their thinking





to a better understanding of conservation of our natural resources, the program has been designed to include as many challenges as possible.

The four divisions of the program are: Conservation Clubs, Conservation Club League, State Youth Conservation Camp, and State Wide Youth Educational Program.

**I. THE JUNIOR CONSERVATION CLUB PROGRAM**, sponsored by the Game and Fresh Water Fish Commission, has developed to a stage where it now includes 20 organized clubs in the State League. These clubs are found in some of the principal cities of the State of Florida. Other than the 20 affiliated clubs, there are 50 youth conservation clubs known to have been spontaneously organized in the state during the past few years. Whenever a club is organized, it is not mandatory for the club to join the League. The club may remain independent, but is still guaranteed the many services which the Commission extends in its educational program.

The purpose of creating these clubs is to bring together in a common bond of interest all young people who are interested in fishing, hunting, conservation, and the outdoors.

These clubs are organized under the co-sponsorship of the Florida Game and Fresh Water Fish Commission. Any interested adult group can sponsor one of the clubs. The development of these clubs in the State has been gradual and is constantly making progress each year.

**II. THE STATE YOUTH CONSERVATION CLUB LEAGUE** was created for the purpose of bringing together the clubs, and their members, to consolidate their efforts toward a greater comprehension of conservation. Only those youth clubs that have organized and have a charter and by-laws are eligible

for League membership.

The clubs that join the League are required to meet certain standards; when these standards are met, they are invited to join and participate in all League activities.

Each year, at an annual meeting held at the Youth Conservation Camp, delegates from the various affiliated clubs convene for the purpose of electing officers, and for the purpose of discussing Club and League business. At the annual meeting, the Board of Directors, elected by the delegates, prepares an agenda for the ensuing year, and makes recommendations for the annual summer camp.

The Board governs and creates policies for the League and affiliates.

**III. THE YOUTH CONSERVATION CAMP** has been established for the purpose of giving our youth an opportunity to enjoy the outdoors, and to learn more about conservation. At Camp, they join forces

for a week of combined recreation and outdoor education. During the encampment, the youthful conservationists learn new concepts of conservation. At Camp, they are given the opportunity to recognize that conservation of our natural resources means the wise use of these resources with the greatest good for the largest number of people for the longest time. They learn that the wealth of the Nation depends on its available resources and upon the resourcefulness of its people. At Camp, they are made aware that conservation applies to all people, rural and urban, and to be most effective must be practiced universally.

The Youth Conservation Camp is located in the Ocala National Forest on Lake Eaton. The Camp covers an area of 57 acres. In 1953, a mess hall, which will accommodate 400 young campers, was constructed. The building is also used for recreational purposes. Ten concrete-block cabins were also constructed, to accommodate a total of 100 campers. A power line has been installed to supply electricity. A winding road trails from State Road 314 to the center of Camp. The road was constructed by the State Road Department in 1954. A sandy beach has been pumped up, and a dock and swimming float constructed.

During the summer of 1955, the Camp operated for 8 weeks. In 1956, it operated for 7 weeks. The combined total enrollment for these two years was 818.

Since the beginning of the Camp in 1954, over 1,000 young campers have attended the summer camp and school at Lake Eaton.

The operation of the Camp is the





direct responsibility of the Supervisor, who also serves as Camp Director. All operation, maintenance, programming, and scheduling is the responsibility of the Director of the Camp.

Plans for future construction call for an additional 10 dormitory-style buildings, and a recreation building. The recreation building will include a conservation library, sick bay, administration offices, work shops, stage, small auditorium, and lecture rooms. Plans also include additional docks for boating, fishing and swimming, and a larger beach.

The encampment for 1956 was the third held at Lake Eaton. Two previous encampments were held in the southern part of Florida. Operation of the Youth Conservation Camp and School for 1957 will be the sixth annual encampment.

Programming for each summer camp is considered most important for the young campers. Considerable attention is given to outlining a program which will be interesting. Through the experiences of past years, it has been determined that a program offering the greatest interest is one which includes active participation. The lectures or talks have been minimized; and wherever instruction is given to the young people, discussion groups are organized. These discussion groups allow for a greater exchange of ideas and more participation of individuals.

Definite progress has been made in the past few years in creating schedules which are appealing to both boys and girls. The schedules include ample opportunity for free periods in which to do the things that they enjoy most.

Each encampment is evaluated. The following year's program is developed by studying recommendations from the preceding year. Innovations are constantly employed to improve the program. The Director and counselors are alert to evaluate any part of the scheduled program, and to make the necessary changes which will bring about the most successful results.

**Counseling** is the most important phase of the summer camping program. It is important to have qualified counselors who know how to work with, and understand, their young charges. Each encampment calls for better and more qualified and enthusiastic counselors. These men and women must have a sincere interest and desire to help the youngsters.

During the past two years, at the conclusion of each week's encampment, examinations have been given to determine what each youngster

learned while in attendance. The results have been both stimulating and interesting. In the two years, 304 award badges have been presented for outstanding grades. This means that approximately 37% of the entire enrollment qualified to receive these badges.

**IV. THE STATE WIDE YOUTH EDUCATION PROGRAM** includes a closer working relationship with schools and other organizations. These organizations are Boy Scouts, Girl Scouts, Future Farmers, Future Foresters, 4-H Clubs, and others.

The purpose for presenting this program to these organizations is to stress special emphasis on the conservation of our natural resources.

A special Conservation Program has been created for the Boy Scouts of America in Florida. Negotiations are being made with the Director of Programming for the Boy Scouts of America at National Headquarters to have this program accepted in Florida.

A similar program is being considered for the Girl Scouts.

The Youth Conservation Section of the Information and Education Division has broadened its scope to include all youth agencies. Assistance is given either directly to the youth organizations, or through the school system. Plans are also being made to introduce a program for the elementary as well as the secondary schools.

Preparations are being made to work in conjunction with the State Board of Education in the Outdoor Education Project recommended by the N.E.A. for school curriculum. This Outdoor Education Project for schools is sponsored by the National Education Association through its Association of Physical Education, Health, and Recreation.

Future workshops are to be set up for teachers as well as laymen. In many counties, the schools are recognizing the value of the program and are working closer with resource agencies.

The Information and Education Division, through its officers, is constantly promoting better relationships with the schools and teachers. Some officers have been assigned specific projects to promote and create teacher's conservation clinics.

New ideas are constantly considered for the promotion of any program which will interpret proper conservation concepts. Future plans call for creation of workshops and clinics for the non-professional, and the sportsmen.

Efforts are being exerted to present a program to the State Board of Education for establishing training



periods in conservation for teachers.

The Youth Education section is also interested in promoting and working with conservation committees of civic and fraternal clubs.

During the years covered by this biennial report, 1955-56, the Supervisor of Youth Education attended 193 meetings of Junior Conservation Clubs and other organizations. He presented talks at 141 of these meetings, appearing before approximately 7,250 persons. These figures do not include television or radio appearances.

During the biennium, the Youth Education office at Ocala distributed over 4,000 pieces of literature to interested persons. In addition, over 400 letters were received, and over 1,000 letters sent out.

The Supervisor also wrote a total of 24 articles for the Junior Conservationist Column of FLORIDA WILDLIFE Magazine. He also wrote three booklets: "How to Organize a Youth Conservation Club," "How to Operate a Youth Conservation Club," and "Florida's Youth Conservation Camp and League."

During the biennium, a state-wide senior advisory committee of volunteer citizens was created, with the committee to serve in an advisory capacity to the clubs and the League.

During the biennium, a total of 125 Conservation Projects were created for use in the League Conservation Merit System of accomplishments.

A camp caretaker was employed during the biennium, and suitable living quarters arranged.

On an overall basis, the Youth Education Program has made considerable progress during the past biennium, especially in the consolidation of programs and activities, formulation of new policies and procedures, and the creation of new printed material and a system of awards.

Detailed reports of all operations are available to interested persons.